APPROVED
APR 07 2022
BOARD OF RECREATION
AND PARK COMMISSIONERS

BOARD REPORT **NO.** 22-076

DATE April 07, 2022 C.D. 6

BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: CESAR CHAVEZ RECREATION COMPLEX PHASE IIIC (AKA SHELDON ARLETA PARK PHASE IIIC) (W.O. #E170163A) (PRJ #20817) PROJECT – APPROVAL OF FINAL PLANS AND CALL FOR BIDS.

AP Diaz		M. Rudnick	
H. Fujita		for C. Santo Domingo	DF
J. Kim		N. Williams	

General Manager

Approved X With Corrections Disapproved Withdrawn

RECOMMENDATIONS

1. Approve final plans and specifications substantially in the form on file with the Board of Recreation and Park Commissioners (Board) Office, for the Cesar Chavez Recreation Complex Phase IIIC (AKA Sheldon Arleta Park Phase IIIC) (W.O. #E170163A) (PRJ# 20817) Project (Project);

2. Approve the Project to be bid and constructed through the Department of Recreation and Parks (RAP) As-Needed Pre-Qualified General Contractors for Park Facilities Construction – New Facility Construction (PQGC);

3. Approve the date to be advertised for receipt of bids as May 18, 2022 at 2:00 P.M. in the Board Office; and,

4. Authorize the RAP Chief Accounting Employee or Designee to make technical corrections as necessary to carry out the intent of this Report.

SUMMARY

The Project is located at 12455 Wicks Street, Sun Valley, CA 91352. The site is bound by Sheldon Street, Arleta Avenue, Wicks Street, and Sharp Avenue. This 45-acre park provides recreational amenities such as a baseball field, an outdoor basketball court, an administration building with public restrooms, a children's play area, picnic area and landscaping. Due to the size of the park, the facilities, features, programs, and services it provides, Cesar Chavez Recreation Complex (AKA Sheldon Arleta Park) meets the standard for a Community Park, as defined in the City's Public Recreation Plan.

This Project is a competitive Proposition K – L.A for Kids Program (Proposition K) project. The Project's scope includes the construction of one (1) baseball field, children's play area, pre-fabricated restroom/office/storage building, picnic area with canopy, landscaping, and irrigation. The Proposition K Program requires that at least three Local Voluntary Neighborhood Oversight Committee (LVNOC) meetings be conducted. There was a total of four LVNOC meetings for the project. The last meeting was held on October 27, 2021. The community, the LVNOC, and Council District No. 6 are in full support of the Project.

The Department of Public Works, Bureau of Engineering (BOE), Architectural Division prepared the plans and specs for this Project.

After review by RAP and BOE staff, it was determined that the construction work can be completed by RAP's PQGC, and that BOE's Construction Management Division will provide construction management services.

The City Engineer estimate for the project is 4,584,202 the Contruction contingency for the Project is $458,200.

Funds are available from the following fund and account:

FUNDING SOURCE	FUND/DEPT./ACCT NO.
Prop 68	205/89/89RHDU
Prop K (8th Cycle)	43K/10/10LM07
Prop K (8th Cycle)	43K/10/10KM07
Quimby	302/89/89460K-AV
Sites and Facilities (Prop K Bond)	209/88/88RMEO
Sites and Facilities (Shortfall Reserve)	209/88/88RMFG
Prop K (4th Cycle)	43K/10/10G572
Prop K (4th Cycle)	43K/10/10F572
Prop K (4th Cycle)	43L/10/10Y572
Prop K (4th Cycle)	43K/10/10W572
CIEP FY 2022-23	TBD

TREES AND SHADE

The proposed project will not result in any tree removal, and existing trees near the project will be protected during the construction.

A total of eighty-four (84) proposed new trees are to be planted as part of the Project. The proposed planted trees are: eleven (11) Desert Willow, eleven (11) Tecate Cypress, seven (7) Mondell Pine, fourteen (14) Chinese Pistache, twenty-seven (27) Coast Live Oak, and fourteen (14) Tipu tree.

At the time of construction completion, the trees would provide approximately 5,847 square feet of canopy coverage. At five (5) years after construction completion, it is anticipated that those trees will provide 14,233 square feet of canopy coverage.

ENVIRONMENTAL IMPACT

The Project was previously evaluated for environmental impact in accordance with California Environmental Quality Act (CEQA), and the Board determined that all the environmental impacts can be mitigated to a level less than significant and adopted the Project's Final Initial Study/Mitigated Negative Declaration (IS/MND). The IS/MND was adopted by the Board on June 16, 2004. A Notice of Determination (NOD) for the adopted Final IS/MND was filed with the Los Angeles City Clerk and the Los Angeles County Registrar/Recorder on June 23, 2004. On January 2022, BOE revisited the IS/MND due to the proposed relocation of an emergency access / service entry along Wicks Street and prepared an Addendum to the Final June 22, 2004 IS/MND to analyze the potential environmental impacts associated with the relocation of the emergency access / service entry; it was determined that no new environmental impacts would result from the minor relocation of the entryway.

According to CEQA Guidelines Section 15162 (Subsequent EIRs and Negative Declarations):

a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR, was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative;

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Careful review of the IS/MND adopted on June 22, 2004 and the Addendum prepared in January 2022 for the proposed Sheldon-Arleta Park Project was conducted in light of the proposed Phase IIIC and Adjoining Street Improvement refinements. This review finds that there are no new significant environmental effects or increase in severity of environmental effects that were not previously identified under the prior environmental review conducted under the provisions of CEQA Guidelines; there are no substantial changes with respect to the circumstances under which the project is undertaken which will require major revisions of the previous MND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and there is no new information of substantial importance that would result in any of the circumstances describe in a.3 above. As none of the conditions listed above is met, no subsequent MND is required.

FISCAL IMPACT

Construction of the Project will be funded by a combination of the aforementioned funding sources. There is no immediate fiscal impact to RAP's General Fund at this time.

STRATEGIC PLAN INITIATIVES AND GOALS

Approval of this Board Report advances RAP's Strategic Plan by supporting:

Goal No. 1: Provide Safe and Accessible Parks
Outcome No. 1: Every Angeleno has walkable access to a park in their neighborhood

This Report was prepared by Gunwoo Choi, Project Manager, BOE Architectural Division. Reviewed by Ohaji Abdallah, Project Manager, BOE Architectural Division; Steve Fierce, Division Manager, BOE Architectural Division; Sean Phan, Planning, Maintenance and Construction Branch; and Darryl Ford, Superintendent, Planning, Maintenance and Construction.

LIST OF ATTACHMENTS

Attachment No. 1 - Final Plans
Attachment No. 2 - Specifications

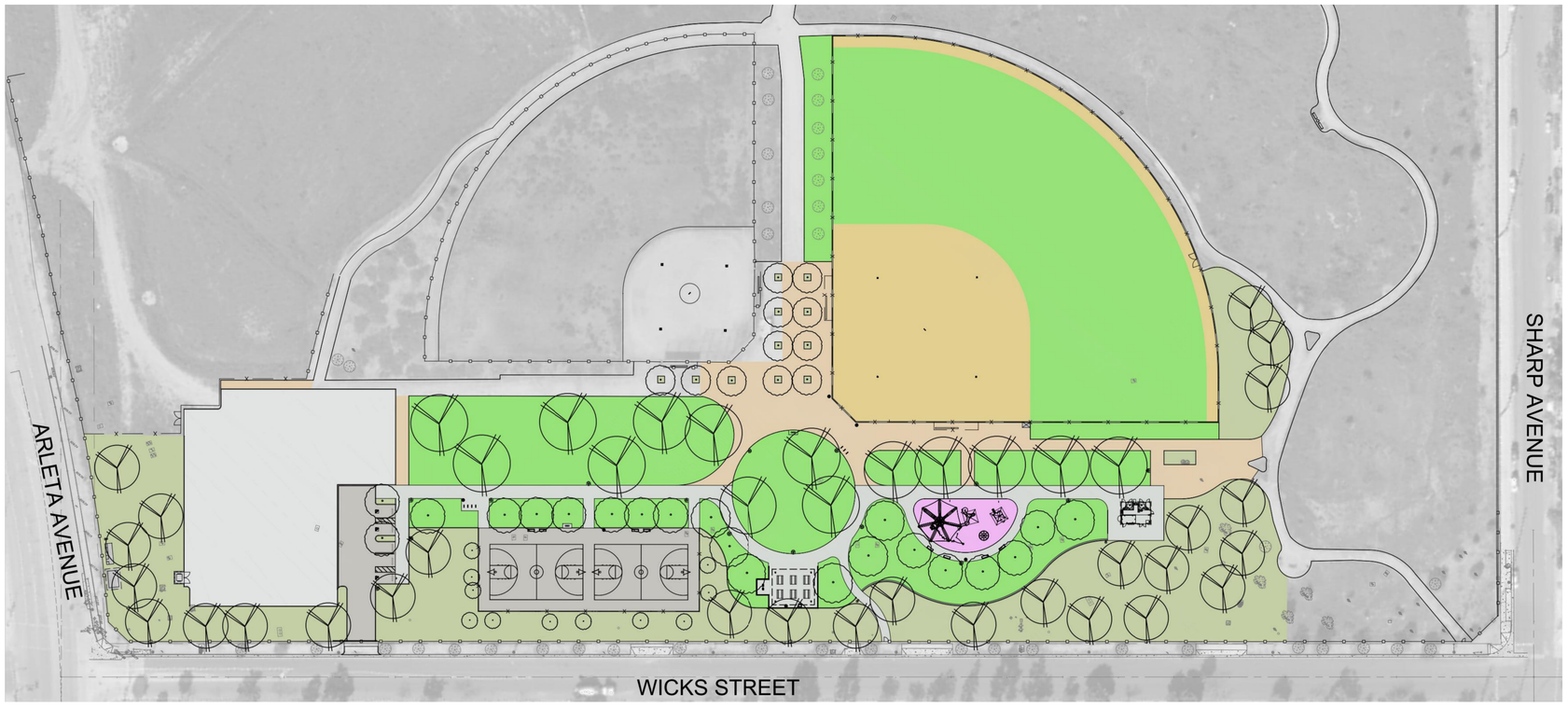
ATTACHMENT NO. 1

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

K303 - CESAR CHAVEZ RECREATION COMPLEX PHASE IIIC
ALSO KNOWN AS: SHELDON ARLETA PARK PHASE IIIC

12455 WICKS STREET, SUN VALLEY, CA 91352

BUREAU OF ENGINEERING
OFFICIAL RECORD



0 30' 60' 120'

NOTE: THIS RENDERING IS INCLUDED FOR GRAPHIC PURPOSES ONLY. THE CONSTRUCTION PLANS INCLUDED HEREIN MAY CONTAIN DIFFERENCES IN LAYOUT AND/OR MATERIALS. PLEASE REFER ONLY TO CONSTRUCTION PLANS, NOTES AND SPECIFICATIONS FOR BIDDING AND CONSTRUCTION PURPOSES.)

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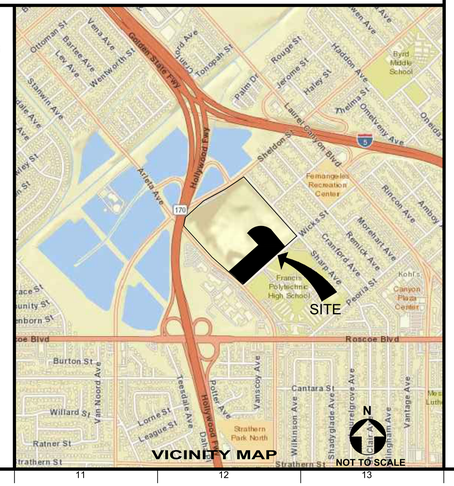

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

WORK ACCEPTED: ____ SERIAL NO. ____
INDEX NO. **RP-300119**
RAP FACILITY NO. 837

GARY LEE MOORE, PE, ENV SP
CITY ENGINEER
ACCEPTED BY:
Electronically Signed by Deborah Weintraub on 10/26/2021 1:41:02 PM
DEPUTY CITY ENGINEER/ PROGRAM MANAGER
DATE 10/26/2021
Electronically signed by Gary Lee Moore
CITY ENGINEER
DATE

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: TITLE SHEET

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES

WORK ORDER NO.
E170163A
PLAN FILE NO.
DRAWING NO.
G001
SHEET 1 OF SHEETS 74

PLOTTED: 8/24/2021 2:20 PM

REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 08/2014
SHEET ISSUE DATE: 8/24/2021 2:19 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\COVER-G001.DWG

ABBREVIATIONS

A	ACRYLONITRILE BUTADIENE STYRENE	ABS
	ADJACENT	ADJ..
	ALTERNATE	ALT.
	APPROXIMATE	APPROX.
	ARCHITECT or ARCHITECTURAL	ARCH.
	ASPHALT	ASPH.
	ASPHALTIC CONCRETE	A.C.
	ASSOCIATE	ASSOC.
	ASSOCIATION	ASSN.
	AMERICAN SOCIETY FOR TESTING MATERIALS	ASTM
	AT	@
	ATRIUM DRAIN	AD
	AVENUE	AVE.
B	BACKFLOW PREVENTION UNIT	B.P.U.
	BEGINNING OF CURVE	B.O.C.
	BENCH MARK	B.M.
	BETWEEN	BET.
	BLOCK	BLK.
	BOTH WAYS	B.W.
	BOTTOM	BTM
	BOTTOM OF CURB	BC
	BOTTOM OF STEP	BS
	BOTTOM OF WALL	BW
	BOULEVARD	BLVD.
	BOUNDARY	BDRY
	BUILDING	BLDG.
C	CATCH BASIN	CB
	CENTERLINE	CL
	CENTER TO CENTER	CC
	CHANGE	CHG.
	CHAIN LINK FENCE	CLF
	CLEAN OUT	CO
	CLEAR	CLR
	COLUMN	COL.
	COMPACT	COMP.
	CONCRETE	CONC.
	CONCRETE B`LOCK	CONC. BLK.
	CONCRETE MASONRY UNIT	C.M.U.
	CONSTRUCT	CONST.
	CONTINUOUS	CONT.
	CONTRACTOR	CONTR.
	CONTROL JOINT	C.J.
	CUBIC FOOT	CF
	CUBIC YARD	CY
D	DECK DRAIN	DD
	DECOMPOSED GRANITE	D.G.
	DEGREE	DEG.
	DEMOLITION	DEMO
	DEPARTMENT OF WATER AND POWER	DWP
	DETAIL	DET
	DIAGONAL	DIAG.
	DIAMETER	DIA.
	DIMENSION	DIM.
	DISTANCE	DIST.
	DIVISION	DIV.
	DOOR	DR.
	DOUBLE	DBL.
	DOMESTIC WATER	DW
	DOWN	DN
	DRAWING	DWG
	DRINKING FOUNTAIN	D.F.
	DRIVEWAY	DWY.
	DUCTILE IRON	DI
	EACH	EA.
E	ELECTRICAL	ELECT.
	ELEVATION	EL.
	ENCLOSURE	ENCL.
	EQUAL	EQ.
	EXISTING	EX.
	EXPANSION JOINT	EJ
	FACE OF CURB	F.O.C.
F	FACE OF WALL	F.O.W.
	FEET	FT
	FINISH	FIN.
	FINISHED FLOOR ELEVATION	FFE
	FINISH GRADE	FG
	FINISHED SURFACE	FS
	FIRE HYDRANT	FH
	FLOOR	FLR
	FLOW LINE	FL
	FOUNDATION	FND
G	GALLONS	GAL.
	GALVANIZED	GALV.
	GATE VALVE	GV
	GAUGE	GA
	GOVERNMENT	GOVT.
	GRADE BREAK	GB
	GROUNDCOVER	GC
H	HARDWARE	HDW
	HEIGHT	HT.
	HIGH POINT	HP
	HIGH POINT OF SWALE	HPS
	HORIZONTAL	HORIZ.
	HOSE BIB	HB
	HOUR	HR
	HYDRANT	HYD.
I	INCH	IN.
	INSIDE DIAMETER	ID
	INVERT ELEVATIPON	IE
	IRRIGATION	IRRIG
	ISOLATION JOINT	IJ
J	JOINT	JT.
L	LABORATORY	LAB.
	LANDSCAPE	LANDS.
	LANDSCAPE ARCHITECT	LA
	LEVEL	LEV.
	LINEAL FEET	LF
	LOW POINT	LP
M	MAINTENANCE	MAINT.
	MANHOLE	MH
	MANUFACTURER	MFR
	MAXIMUM	MAX.
	MINIMUM	MIN.
	MISCELLANEOUS	MISC.
N	NATURAL.	NAT.
	NORTH	N
	NOT IN CONTRACT	NIC
	NOT TO EXCEED	NTE
	NOT TO SCALE	NTS
	NUMBER	NO., #
O	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION	OSHA
	ON CENTER	OC
	OPENING	OPNG
	OPPOSITE	OPP.
	OUTSIDE DIAMETER	OD
P	PAINTED	PTD.
	PEDESTAL	PED.
	PERFORATED	PERF.
	PERPENDICULAR	PERP.
	PIECE	PC.
	PLANTING AREA	PA
	POINT	PT.
	POINT OF BEGINNING	POB
	POINT OF CONNECTION	POC
	POLYVINYL CHLORIDE	PVC
	POTABLE WATER	PW
	POUND/POUNDS	LB/LBS
	POUNDS PER SQUARE INCH	PSI
	POWER POLE	PP
	PREFABRICATED	PREFAB.
	PROPERTY	PROP.
	PROPERTY LINE	PL
	PLYWOOD	PLYWD.
Q	QUICK COUPLING VALVE	QCV
R	RADIUS	RAD.
	REDUCED PRESSURE BACKFLOW DEVICE	RP
	REFERENCE LINE	REF LINE
	REINFORCED	REINF.
	REMOTE CONTROL VALVE	RCV
	REQUIRED	REQ.
	RIGHT OF WAY	ROW
S	SANITARY SEWER	SS
	SCHEDULE	SCHED.
	SCORE LINE	SL
	SHEET	SHT.
	SHUT-OFF VALVE	SOV
	SIGNAL	SIG
	SPECIFICATION/S	SPEC.
	SQUARE FEET	SF
	STANDARD	STD.
	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	SSPWC
	STATION	STA.
	STORM DRAIN	SD
T	TOP OF CURB	TC
	TOP OF FOOTING	TF
	TOP OF GRATE	TG
	TOP OF STEP	TS
	TOP OF WALL	TW
	TYPICAL	TYP.
U	UNIFORM BUILDING CODE UNLESS NOTED OTHERWISE	U.B.C. U.N.O.
V	VERIFY IN FIELD	VIF
	VERTICAL	VERT.
	VOLUME	VOL.
	VOLTS	V
W	WATER METER	WM
	WATERPROOF/WATERPROOFING	WP
	WEAKENED PLANE JOINT	WPJ
	WELDED WIRE MESH	WWM
	WEIGHT	WT
	WEST	W
	WITH	W/
	WITHOUT	W/O
	WOOD	WD
	WORK ORDER	WO
Y	YARD	YD

SCOPE OF WORK

SCOPE OF WORK: BASKETBALL COURTS, BASEBALL FIELD, PICNIC AREA WITH A SHADE STRUCTURE, PARKING AREA, PATHWAYS, TRASH ENCLOSURE, FENCING, GRADING AND DRAINAGE IMPROVEMENTS, LOW IMPACT DEVELOPMENT BIOFILTRATION PLANTERS, SITE UTILITIES, PLANTING AND IRRIGATION IMPROVEMENTS, SITE AMENITIES, ELECTRICAL DESIGN AND CONSTRUCTION INCLUDING ELECTRICAL SERVICE EQUIPMENT, LIGHTING, AND ELECTRICAL VEHICLE CHARGING STATION (30% DESIGN PROVIDED HEREIN), AND DESIGN OF A METHANE EXTRACTION SYSTEM FOR A PREFAB RESTROOM TO BE PROVIDED/INSTALLED BY OTHERS.

ADDRESSES/LEGAL DESCRIPTION

12453 W WICKS ST 91352
12455 W WICKS ST 91352
12549 W WICKS ST 91352
12501 W WICKS ST 91352
12431 W WICKS ST 91352
8701 N SHARP AVE 91352
8723 N SHARP AVE 91352
8761 N SHARP AVE 91352
8797 N SHARP AVE 91352
12600 W SHELDON ST 91352
12730 W SHELDON ST 91352
12740 W SHELDON ST 91352

TRACT: THE MACCLAY RANCHO
LOT: FR 325
APNs: 2634015901, 2634014903
PINs: 195B161-440, 192B165-34

TRACT: TR 14137
LOTs: 1, 2, 3, 4, 5
APN: 2634014903
PINs: 192B165-76, 192B165-136, 192B165-144, 192B165-156, 192B165-171, 192B165-181, 192B165-193, 192B161-21, 192B161-22, 192B161-23, 192B161-25, 192B161-26, 192B161-27, 192B161-28

LOTS 1,2,3,4 AND 5 TRACT NO 14137 AND THAT PART NE OF NE LINE OF TR NO 14137 AND SE OF NE PROLONGATION OF NW LINE OF SD TR OF BLK 325 THE MACLAY RO

ZONING: OS-1XL-G

OWNER

CITY OF LOS ANGELES, DEPARTMENT OF RECREATION AND PARKS
221 N FIGUEROA ST 15TH FL
LOS ANGELES CA 90012

GENERAL NOTES

1. THIS IMPROVEMENT CONSISTS ONLY OF WORK CALLED FOR ON THESE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A MINIMUM 6' HIGH TEMPORARY CHAINLINK CONSTRUCTION FENCE WITH LOCKABLE GATES AROUND ALL CONSTRUCTION AREAS. FENCING SHALL BE PROVIDED WITH CONTINUOUS GREEN MESH WINDSCREEN. CONTRACTOR SHALL REVIEW ALIGNMENT AND LOCATION OF CONSTRUCTION FENCING WITH PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL KEEP FENCING IN PLACE UNTIL CITY'S FINAL ACCEPTANCE OF THE WORK AFTER COMPLETION OF ESTABLISHMENT AND MAINTENANCE PERIOD. SEE GENERAL REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND DOCUMENTING THE SITE PRIOR TO MOBILIZATION AND THE BEGINNING OF CONSTRUCTION. ANY EXISTING ELEMENTS TO BE PROTECTED IN PLACE, WHICH SHOW ANY TYPE OF DAMAGE (E.G. CRACKED CONCRETE, DAMAGE TO TREES, ETC.), SHOULD BE DOCUMENTED AND BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER. SEE GENERAL REQUIREMENTS.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING TREES TO REMAIN DURING CONSTRUCTION. SEE TREE PROTECTION REQUIREMENTS HEREIN.
5. THE EXISTING CONDITIONS SHOWN ON THE PLANS ARE BASED UPON AS-BUILT DRAWINGS AND FIELD SURVEY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ANY SUB-SURFACE CONDITIONS OR PHYSICAL CONDITIONS ENCOUNTERED WHICH CONTRACTOR BELIEVES, OR SHOULD HAVE SUSPECTED IN THE EXERCISE OF DUE DILIGENCE AND EXTREME CARE, TO CONSTITUTE DIFFERING SITE CONDITIONS IN WRITING TO THE BCA INSPECTOR AND THE PROJECT MANAGER WITHIN TWENTY FOUR (24) HOURS OF DISCOVERY, AS SET FORTH IN THE GENERAL CONDITIONS.
6. SURVEYING REQUIRED FOR VERTICAL AND HORIZONTAL ALIGNMENT MUST BE PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND BE PERFORMED PER THE GENERAL REQUIREMENTS. CONTRACTOR SHALL VERIFY AND MARK ALL PROPERTY LINES OR LIMIT OF WORK LINES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL BE PROVIDED DIGITAL CAD FILES BY THE CITY FOR USE IN THE LAYOUT OF WORK.
7. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE AND NOTIFY PROJECT MANAGER IMMEDIATELY OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK. IN THE CASE THE CONTRACTOR DOES NOT PROVIDE IMMEDIATE NOTIFICATION, ANY CORRECTIONS OR REVISIONS OF SUBSEQUENT WORK PERFORMED BY CONTRACTOR REQUIRED DUE TO THESE DISCREPANCIES SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
8. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE WORK SPECIFIED ON THE DRAWINGS AND WITHIN THE VARIOUS NOTES SHOWN HEREIN.
9. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED PROJECT UNLESS OTHERWISE SHOWN; THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION IN EVERY CASE. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.
10. UNAUTHORIZED CHANGES & USES: THE CITY WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS AND THE CITY.

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

THIS SITE IS A FORMER LANDFILL. REFER TO G007 FOR A REPRESENTATION OF THE EXISTING SUBTERRANEAN METHANE EXTRACTION SYSTEM. IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

BUREAU OF ENGINEERING
OFFICIAL RECORD

BUREAU OF ENGINEERING
REVISION DESCRIPTION | DATE | BY | NO.
INDEX NO. RP-300119
RAP FACILITY NO. 837

ENGINEERING
CITY OF LOS ANGELES

LANDSCAPE ARCHITECT
DONALD ADRIAN
No. 3940
10-31-21
RENEWAL DATE
04-05-21
DATE
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
ARCHITECTURAL DIVISION		
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LEGAL DESCRIPTION/SCOPE OF WORK/ GENERAL NOTES AND ABBREVIATIONS

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO.
E170163A
PLAN FILE NO.
DRAWING NO.
G002
SHEET 2 OF SHEETS 74

PLOTTED: 8/24/2021 2:21 PM

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TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/9/2021 10:22 AM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\G002 GENERAL NOTES.DWG

REVISION DATES (DESIGN STAGE ONLY)

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REVISION DATES (DESIGN STAGE ONLY)

ARLETA AVE

ARLETA AVE

WICKS ST

DIRT ROAD

DIRT ROAD

DIRT ROAD

MATCHLINE — SHEET 2 SHEET 1

SHEET 2 SHEET 1 MATCHLINE

4"H CLF

6'H CLF

WARNING TRACK

GATE

GRASS

ABANDONED VLT

VLT EL.

VALVE EL.

PIPE EL.

TOP PIPE

TOP PIPES

SUMP PUMPS

GAS PROBE

4-#9 CORRUGATED PIPE

10" PIPE

4-10" CORNS 16"Ø

CP101 FD S&W LACS PER FB 192-161 PG 152

S&W PER FB 192-161 PG 183

S&W PER FB 192-161 PG 184

S&W PER FB 192-161 PG 185

S&W PER FB 192-161 PG 186

S&W PER FB 192-161 PG 187

S&W PER FB 192-161 PG 188

S&W PER FB 192-161 PG 189

S&W PER FB 192-161 PG 190

S&W PER FB 192-161 PG 191

117.28' PER FB 192-161 PG 183

162.28' PER ALA 170E PG 90

162.28' PER ALA 170E PG 90

13°13'30" PER ALA 170E PG 90

89°00'06" PER FB 192-161 PG 184

(PER ALA 170E PG 90)

R = 323.12'
R = 1400.00'
D = 13°13'30"

169513M

360725M

360728M

360727M

M4539M

M4538M

M4537M

M4536M

M4535M

M4534M

M4533M

M4532M

M4531M

M4530M

M4529M

M4528M

M4527M

M4526M

M4525M

M4524M

M4523M

M4522M

M4521M

M4520M

M4519M

M4518M

M4517M

M4516M

M4515M

M4514M

M4513M

M4512M

M4511M

M4510M

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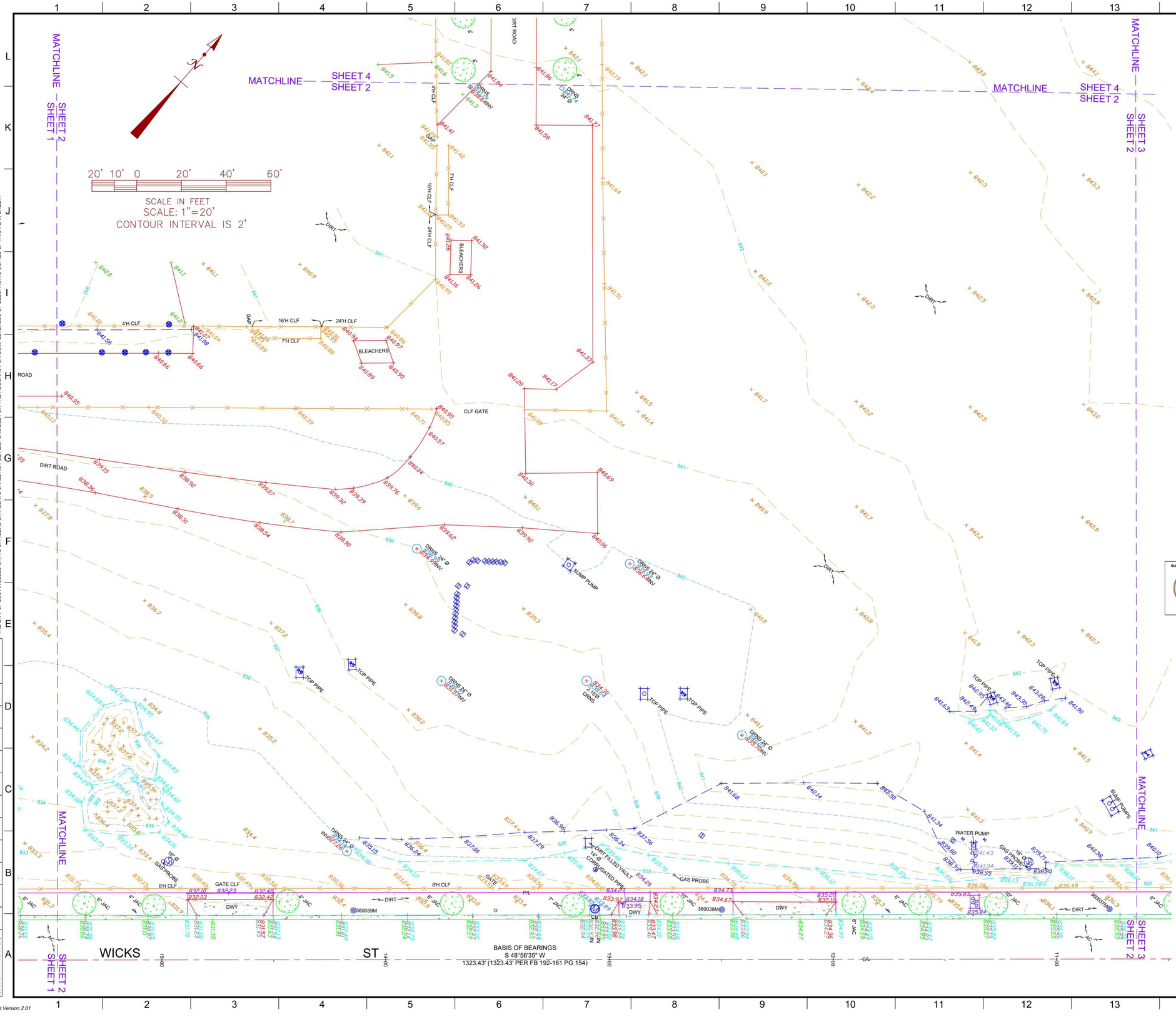
M4502M

M4501M

M4500M



LEGEND LINE TYPE

- TANGENT LINE
- STREET CONTROL LINE BY RECORD
- STREET CONTROL LINE
- CONTOUR LINE
- CONTOUR INDEX LINE
- CURB
- FLOW LINE
- CONCRETE GUTTER
- SIDE WALK
- DRIVEWAYS
- EDGE OF CONCRETE
- EDGE OF PAVEMENT
- BERM
- TOP
- TOE
- CHAIN LINK FENCE
- WROUGHT IRON FENCE
- TREE DRIP LINE
- PIPE
- VAULT
- PROPERTY LINE

SYMBOL LEGEND

- MAINTENANCE HOLE
- STORM DRAIN MAINTENANCE HOLE
- SEWER LAMP HOLE
- TRAFFIC SIGNAL PULLBOX
- ELECTRIC PULLBOX
- IRRIGATION CONTROL BOX
- WATER METER
- GAS VALVE
- WATER VALVE
- VALVE
- SPRINKLER
- STAND PIPE
- SURFACE DRAIN
- LIGHT STANDARD
- TRAFFIC STANDARD
- SIGN
- FIRE HYDRANT
- POWER POLE
- GUY WIRE
- CONTROL POINT
- OAK TREE
- TREE
- SHRUB
- CONCRETE

LEGEND ABBREVIATIONS

AC	ASPHALT CONCRETE
AVE	AVENUE
BOB	BASIS OF BEARINGS
C/L	CONTROL LINE
CALC'D	CALCULATED
CB	CATCH BASIN
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CP	CONTROL POINT
DT	DIRT
DRNS	SURFACE DRAIN
DWY	DRIVE WAY
ELEC	ELECTRIC
FB	FIELD BOOK
FD	FOUND
H	HEIGHT
JAC	JACARANDA
LACS	LOS ANGELES CITY SURVEYOR
P/L	PROPERTY LINE
PG	PAGE
R	RADIUS
S&W	SPIKE AND WASHER
SPK	SPIKE
ST	STREET
VLT	VAULT
WIF	WROUGHT IRON FENCE
#	NUMBER
Ø	DIAMETER
Δ	DELTA

BUREAU OF ENGINEERING
OFFICIAL RECORD

NOTES:

STREET RIGHT OF WAY
STREET RIGHT OF WAYS ON THIS MAP WERE LOCATED BY FIELD SURVEY BY RETRACEMENT OF CITY ENGINEER FIELD BOOKS AS REFERENCED HEREON.

DUPLICATE NOTE:
THIS MAP IS A DUPLICATE OF THE SURVEY DEPICTED ON MAP # A-21152, FILED IN THE BUREAU OF ENGINEERING, CENTRAL RECORDS SECTION, CITY OF LOS ANGELES.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 2.01

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISIONS:	DATE:	BY:

INDEX NO. RP-300119

SURVEY NO. 35876

PROFESSIONAL LAND SURVEYOR
ERIC C. RAMOS
NO. 8724
STATE OF CALIFORNIA

GARY LEE MOORE, P.E.
CITY ENGINEER
SURVEY DIVISION

		DATE:
SURVEYOR: ERIC RAMOS	P.L.S: 8724	03/03/2021
FIELD SURVEYOR: OSCAR PENADO		09/20/2019
DRAWN BY: AARON HEMEON		10/31/2019
CHECKED BY: OSCAR PENADO		11/05/2019
APPROVED BY:		

VERTICAL CONTROL: FB# 40258 PGS 765 - 769
HORIZONTAL CONTROL: FB# 40258 PGS 765 - 769

SHEET TITLE: SITE SURVEY, SHEET 2

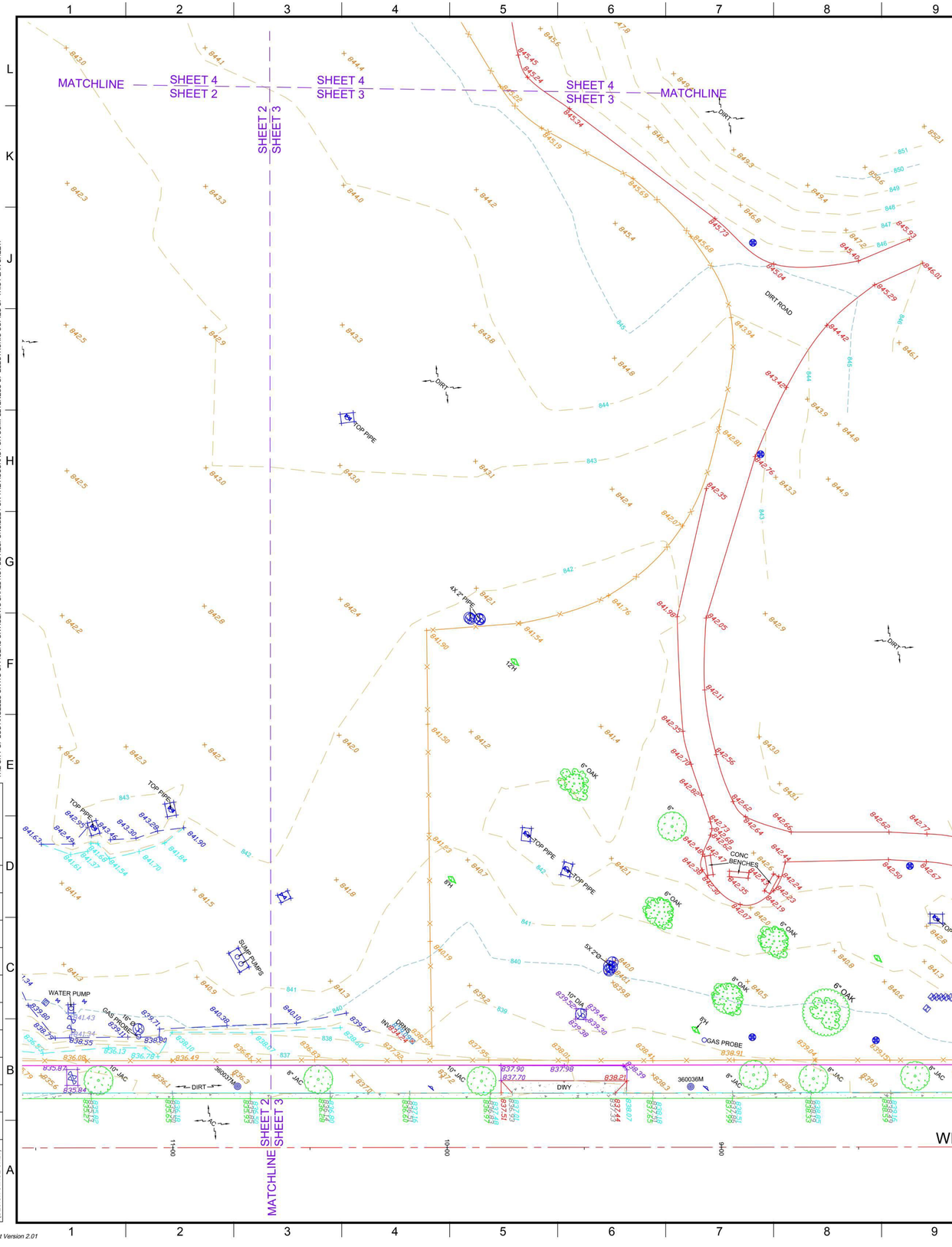
PROJECT: CESAR CHAVEZ RECREATION COMPLEX PHASE IIIC AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

WORK ORDER NO. E170163A

DRAWING NO. G004

SHEET 4 OF 74 SHEETS



SCALE IN FEET
SCALE: 1"=20'
CONTOUR INTERVAL IS 2'

20' 10' 0 20' 40' 60'

LEGEND LINE TYPE

- TANGENT LINE
- STREET CONTROL LINE BY RECORD
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- CONTOUR LINE
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- VAULT
- PROPERTY LINE

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JAC	JACARANDA
LACS	LOS ANGELES CITY SURVEYOR
P/L	PROPERTY LINE
PG	PAGE
R	RADIUS
S&W	SPIKE AND WASHER
SPK	SPIKE
ST	STREET
VLT	VAULT
WIF	WROUGHT IRON FENCE
#	NUMBER
Ø	DIAMETER
Δ	DELTA

BUREAU OF ENGINEERING
OFFICIAL RECORD

NOTES:

STREET RIGHT OF WAY
STREET RIGHT OF WAYS ON THIS MAP WERE LOCATED BY FIELD SURVEY BY RETRACEMENT OF CITY ENGINEER FIELD BOOKS AS REFERENCED HEREON.

DUPLICATE NOTE:
THIS MAP IS A DUPLICATE OF THE SURVEY DEPICTED ON MAP # A-21152, FILED IN THE BUREAU OF ENGINEERING, CENTRAL RECORDS SECTION, CITY OF LOS ANGELES.

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REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 2.01

BUREAU OF ENGINEERING

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISIONS:	DATE:	BY:

SURVEY NO. 35876

INDEX NO. RP-300119

PROFESSIONAL LAND SURVEYOR * ERIC C. RAMOS * NO. 8724 * STATE OF CALIFORNIA

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, P.E.
CITY ENGINEER

SURVEY DIVISION

SURVEYOR:	ERIC RAMOS
P.L.S:	8724
FIELD SURVEYOR:	OSCAR PENADO
DRAWN BY:	AARON HEMEON
CHECKED BY:	OSCAR PENADO
APPROVED BY:	
DATE:	03/03/2021
	09/20/2019
	10/31/2019
	11/05/2019

VERTICAL CONTROL: FB# 40258 PGS 765- 769
HORIZONTAL CONTROL: FB# 40258 PGS 765- 769

SHEET TITLE: SITE SURVEY, SHEET 3

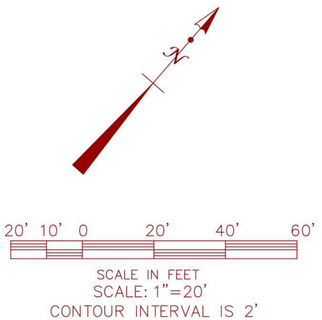
PROJECT: CESAR CHAVEZ RECREATION COMPLEX PHASE IIIC AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

WORK ORDER NO.
E170163A

DRAWING NO.
G005

SHEET 5 OF 74 SHEETS



LEGEND LINE TYPE

- TANGENT LINE
- STREET CONTROL LINE BY RECORD
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- GUY WIRE
- CONTROL POINT
- OAK TREE
- TREE
- SHRUB
- CONCRETE

NOTES:

STREET RIGHT OF WAY
STREET RIGHT OF WAYS ON THIS MAP WERE LOCATED BY FIELD SURVEY BY RETRACEMENT OF CITY ENGINEER FIELD BOOKS AS REFERENCED HEREON.

DUPLICATE NOTE:

THIS MAP IS A DUPLICATE OF THE SURVEY DEPICTED ON MAP # A-21152, FILED IN THE BUREAU OF ENGINEERING, CENTRAL RECORDS SECTION, CITY OF LOS ANGELES.

LEGEND ABBREVIATIONS

AC	ASPHALT CONCRETE
AVE	AVENUE
BOB	BASIS OF BEARINGS
C/L	CONTROL LINE
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CB	CATCH BASIN
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CP	CONTROL POINT
DT	DIRT
DRNS	SURFACE DRAIN
DWY	DRIVE WAY
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JAC	JACARANDA
LACS	LOS ANGELES CITY SURVEYOR
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S&W	SPIKE AND WASHER
SPK	SPIKE
ST	STREET
VLT	VAULT
WIF	WROUGHT IRON FENCE
#	NUMBER
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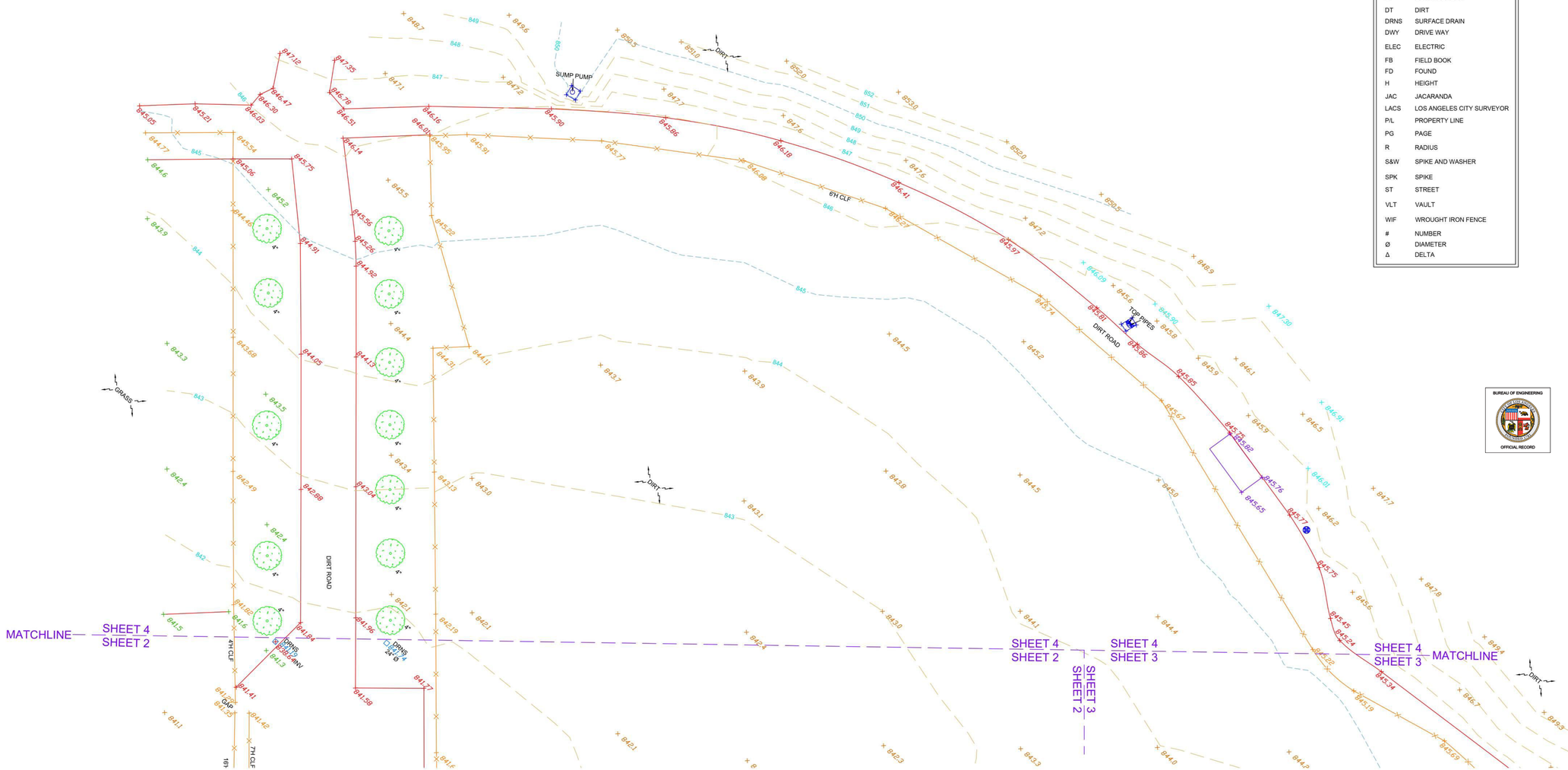

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OFFICIAL RECORD

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Sheet Version 2.01

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISIONS:	DATE:	BY:

SURVEY NO. 35876

INDEX NO. RP-300119

PROFESSIONAL LAND SURVEYOR ★ ERIC C. RAMOS ★ NO. 8724 ★ STATE OF CALIFORNIA

		DATE:
CITY ENGINEER	GARY LEE MOORE, P.E.	
	SURVEY DIVISION	
P.L.S. 8724	SURVEYOR: ERIC RAMOS	03/03/2021
	FIELD SURVEYOR: OSCAR PENADO	09/20/2019
	DRAWN BY: AARON HEMEON	10/31/2019
	CHECKED BY: OSCAR PENADO	11/05/2019
	APPROVED BY:	

VERTICAL CONTROL: FB# 40258 PGS 765 - 769
HORIZONTAL CONTROL: FB# 40258 PGS 765 - 769

SHEET TITLE: SITE SURVEY, SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX PHASE IIIC AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

WORK ORDER NO.
E170163A
DRAWING NO.
G006
6 SHEET OF 74 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/24/2021 2:28 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\G007 METHANE EXTRACTION AS-BUILT.DWG

REVISION DATES (DESIGN STAGE ONLY)

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

FOR REFERENCE ONLY:

THIS SITE IS A FORMER LANDFILL. THIS DRAWING IS A REPRESENTATION OF THE EXISTING SUBTERRANEAN METHANE EXTRACTION SYSTEM, FORMER LANDFILL BOUNDARY, AND THE EXISTING SURVEY. THE METHANE EXTRACTION SYSTEM LAYOUT IS BASED UPON CITY AS-BUILT RECORD DRAWINGS, AND IS DEPICTED HERE FOR INFORMATIONAL PURPOSES ONLY. SHOULD THE CONTRACTOR ENCOUNTER THE METHANE EXTRACTION SYSTEM PIPING DURING GRADING OPERATIONS, THE CONTRACTOR SHALL STOP WORKING IN THE AREA OF THE PIPING AND IMMEDIATELY NOTIFY THE BCA INSPECTOR, LASAN REPRESENTATIVE, AND DESIGNER. A DIGITAL COPY OF THE AS-DESIGNED PLANS AND METHANE EXTRACTION SYSTEM WILL BE PROVIDED TO THE CONTRACTOR.

LEGEND:

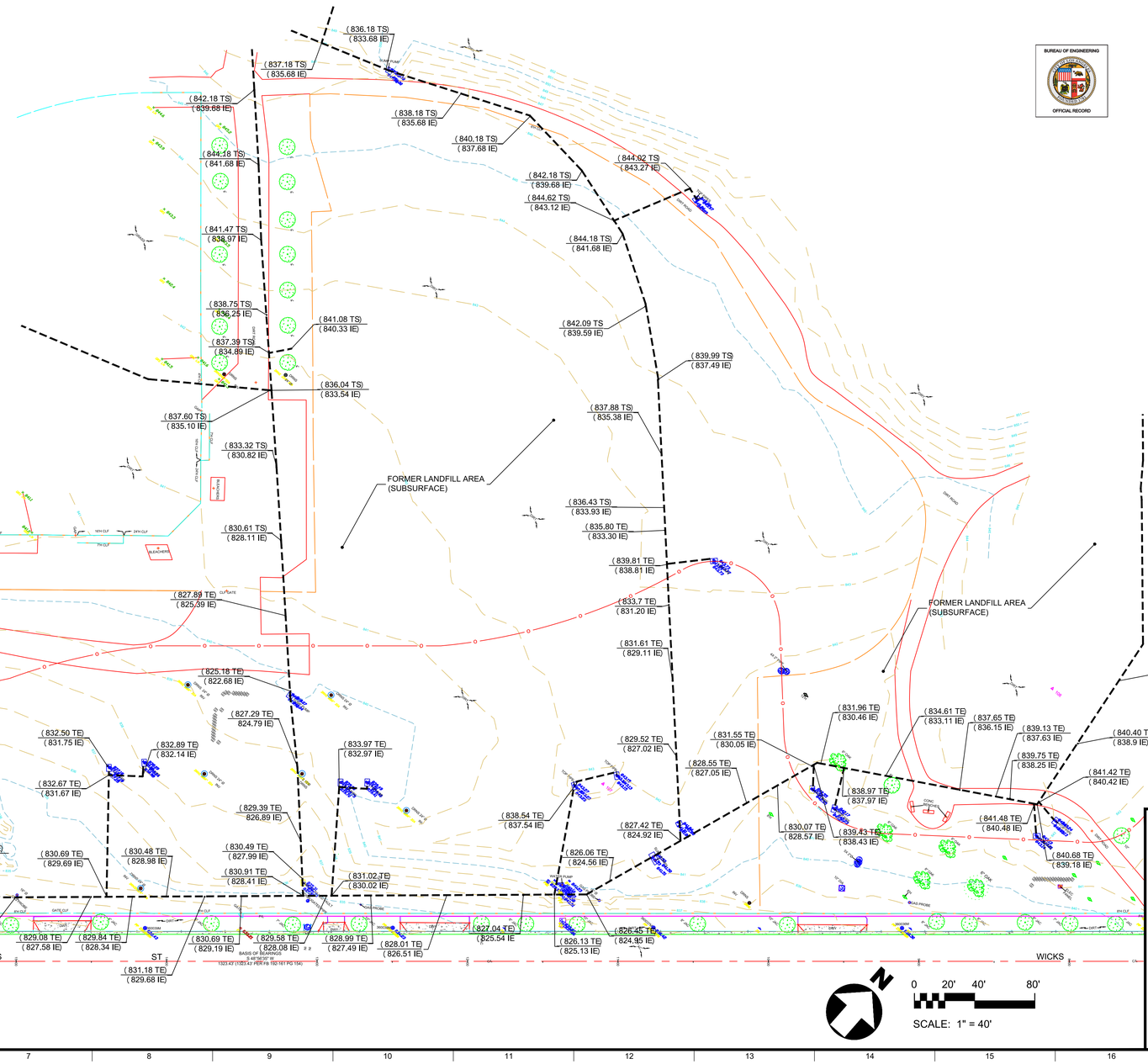
- EX. SUBSURFACE METHANE EXTRACTION SYSTEM PIPING
- APPROXIMATE BOUNDARY OF FORMER LANDFILL (SUBSURFACE)

ABBREVIATIONS

IE EX. METHANE EXTRACTION PIPE INVERT ELEVATION

TE EX. DETECTABLE MARKING TAPE ELEVATION, LOCATED 6" ABOVE TOP OF PIPING

BUREAU OF ENGINEERING
OFFICIAL RECORD



BUREAU OF ENGINEERING

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION DATE:
LIC. NO.:
LANDSCAPE ARCHITECT:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: EXISTING METHANE EXTRACTION SYSTEM AS-BUILT
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. G007
SHEET 7 OF SHEETS 74

PLOTTED: 8/24/2021 2:29 PM

LANDSCAPE CONSTRUCTION NOTES

CESAR CHAVEZ RECREATION COMPLEX PHASE IIIC
AKA SHELDON ARLETA PARK PHASE IIIC
Project #E170163A

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1. GENERAL

A. The GENERAL CONDITIONS and GENERAL REQUIREMENTS, the latest edition and supplements of the Standard Specifications For Public Works Construction, hereinafter referred to as (SSPWC) adopted by the Board Of Public Works and the City of Los Angeles including the City of Los Angeles Department Of Public Works SSPWC additions and amendments (Brown Book) shall be made a part of these plans.

1. Website: http://eng2.laCITY.org/brownbook/frame.cfm

B. Where conflicts occur between the GENERAL CONDITIONS and GENERAL REQUIREMENTS and the SSPWC, the GENERAL CONDITIONS and GENERAL REQUIREMENTS shall take precedence. Where conflicts occur between these landscape construction notes and the SSPWC, these Landscape Construction Notes shall take precedence.

1. Subsections included within these Landscape Construction Notes modify or add to the corresponding subsection (by number) of the SSPWC, latest edition with current yearly supplements; where options for materials and/or methods appear in the SSPWC, the option listed herein shall be used.

C. Precedence of contract documents shall be in accordance with the GENERAL CONDITIONS.

D. Contract work area shall be as defined on the title sheet, or as indicated on the plans by means of a contract limit of work line.

E. Permits and licenses: CONTRACTOR shall procure all required CITY, county and state permits and licenses, including municipal business license and pay all charges and fees for the same.

F. The project site shall be maintained in conformance with Section 7-8: Project Site Maintenance of the SSPWC and the requirements of the Project Manual.

1.1 PLANS AND SPECIFICATIONS

A. The CONTRACTOR shall be responsible for issuing a complete set of plans and specifications to all Sub-Contractors.

B. CONTRACTOR shall maintain a current set of plans reflecting all issued plan clarifications, RFI's and change orders at all times.

C. GEOTECHNICAL INFORMATION: The Geotechnical documentation reports referenced below are a part of Project Manual. CONTRACTOR shall comply with all soils report recommendations specified and other instruction directed by the GEOTECHNICAL ENGINEER. In case of conflicts between another part of the Project Manual and Geotechnical Report the most restrictive condition shall govern unless otherwise approved by the GEOTECHNICAL ENGINEER.

- Geotechnical Site Investigation, Proposed Athletic Fields and Related Structures, 12455 Wicks Street, dated August 27, 2004, GED File No. 03-053.
- Los Angeles Department of Building and Safety (LADBS) Geology and Soils Report Approval Letter, Log # 45346, dated October 19, 2004.
- Geotechnical Letter, Backstop Pile Foundation, Sheldon Arleta Landfill/Cesar Chavez Park, dated February 11, 2014, GED File No. 03-053.
- Los Angeles Department of Building and Safety (LADBS) Geology and Soils Report Approval Letter, Log # 83272, dated February 28, 2014.
- Update Geotechnical Report, Cesar Chavez Park (Sheldon Arleta Landfill) Phase IIIC, 12455 Wicks Street, dated June 11, 2019, GED File No. 03-053.
- Los Angeles Department of Building and Safety (LADBS) Request for Modification Approval, Mod # 26633, dated August 7, 2019, 2021.
- Los Angeles Department of Building and Safety (LADBS) Geology and Soils Report Approval Letter, Log # 109182, dated August 7, 2019.
- Supplemental Geotechnical Report, Cesar Chavez Park (Sheldon Arleta Landfill) Phase IIIC, 12455 Wicks Street, dated March 12, 2020, GED File No. 03-053.
- Los Angeles Department of Building and Safety (LADBS) Geology and Soils Report Approval Letter, Log # 112671, dated April 9, 2020.
- Los Angeles Department of Building and Safety (LADBS) Request for Modification Approval, Mod # 27151, dated May 8, 2020.
- Los Angeles Department of Building and Safety (LADBS) Request for Modification Approval, Mod # 27675, dated April 28, 2021.
- 2nd Supplemental Geotechnical Report - Support for Bleachers, Cesar Chavez Park (Sheldon Arleta Landfill) Phase IIIC, 12455 Wicks Street, dated April 8, 2021, GED File No. 03-053.
- Los Angeles Department of Building and Safety (LADBS) Geology and Soils Report Approval Letter, Log # 117286, dated May 26, 2021.

1.2 SCHEDULE OF WORK

A. The CONTRACTOR shall schedule all work in accordance with the GENERAL REQUIREMENTS.

B. The PROJECT MANAGER, CONSTRUCTION MANAGER, ENGINEER, CONTRACTOR and Department Of Recreation & Parks (RAP) maintenance personnel shall coordinate the CONTRACTOR's schedule of work with ongoing RAP maintenance of the facility outside the work area and the CONTRACTOR's maintenance of the area within the work area, as defined in the maintenance portion of the LANDSCAPE PLANTING section.

1.3 JOB START MEETING

A. The CONTRACTOR shall schedule a job start meeting with the PROJECT MANAGER after receipt of the notice to proceed. This meeting shall include the following participants: CONTRACTOR, PROJECT MANAGER, CONSTRUCTION MANAGER, BCA Inspector, ENGINEER, and RAP site maintenance personnel prior to the commencement of meeting to review the content of the plans and discuss the coordination of the project with RAP operations at the project site. The pre-construction meeting can be held at the same time as the job start meeting at the CONTRACTOR's discretion.

1.4 QUALITY ASSURANCE

A. Labor: use adequate number of skilled laborers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

B. Codes and regulations: conform to the applicable Los Angeles City Building Code and Amendments, the SSPWC latest edition, Los Angeles City Bureau of Engineering Brown Book, latest edition and provisions hereinafter specified in the Project Manual, and all other applicable codes and regulations.

C. Permits: CONTRACTOR shall submit inspection/acceptance certificates required by the governing authorities and pay for all the required permits, plan check, inspections, and fees unless otherwise noted. CONTRACTOR shall arrange for and make required inspections and tests.

D. Inspections: all work and materials are subject to inspection and approval by the BCA inspector, PROJECT MANAGER or project ENGINEER. Any work done without required inspection will be subject to rejection per Section 2-11 of the SSPWC.

1. The CONTRACTOR shall notify the BCA Inspector and PROJECT MANAGER three (3) days prior to requested date of inspection. See each section herein for required inspections for each type of work.

2. Pre-final inspection. Pre-final inspection shall be in accordance with Article 46 of the GENERAL CONDITIONS.

3. Contract final inspection: contract final inspection shall be in accordance with the GENERAL CONDITIONS

4. In-plant inspection: CONTRACTOR shall be responsible for scheduling all required in-plant inspections with the bureau of contract administration. In-plant inspection requirements shall be determined by BCA materials control unit, and shall include, but not limited to, the following items:

   a. Galvanizing of fabricated steel items
   b. Galvanizing of chain link fabric and hardware
   c. Steel grates and frames
   d. Portland cement concrete & base
   e. Asphalt concrete and base
   f. Shop welding of fabricated steel items
   g. Shop painting of fabricated steel items

1.5 MATERIALS SUBMITTAL

The CONTRACTOR shall make required submittals in accordance with the GENERAL REQUIREMENTS.

1.6 SUBSTITUTIONS AND "OR EQUAL" SUBMITTAL

The CONTRACTOR shall make substitution submittals in accordance with the GENERAL REQUIREMENTS.

1.7 RECORD DRAWINGS (AS-BUILTS) SUBMITTALS

Record drawings shall be in accordance with the GENERAL REQUIREMENTS. See Section 11 - IRRIGATION SYSTEMS for additional requirements.

1.8 DEPARTMENT OF PUBLIC WORKS STANDARD PLANS

The following department of public works standard plans are to be included as a part of these plans:

Number	Title
S-110-1	House Connection Sewer
S-164-0	Terminal Cleanout Structure
S-251-1	Pipe Laying in Trenches
S-253-0	Supports for Stormdrain and Sewer Pipe Across Trenches
S-440-3	Driveways
S-442-3	Curb Ramps

SSPWC
2017 edition of the Greenbook
Website: http://eng.laCITY.org/techdocs

City of Los Angeles Department Of Public Works SSPWC additions and amendments (Brown Book) Website: http://eng2.laCITY.org/brownbook/frame.cfm

1.9 LAYOUT OF WORK & GRADE SHEET APPROVAL

All spot elevations, grading contour lines, and grades shown on the plans for grading, pavement and drainage improvements shall be staked by a California licensed land surveyor provided by the CONTRACTOR at no additional cost to the CITY per the GENERAL REQUIREMENTS. Grade stakes shall be a minimum size of 1" x 2" and shall be driven a minimum of 12" into ground; each grade stake shall be protected by a flagged lath projecting 24" above ground; grade stakes disturbed by on-site activities shall be reset by the surveyor. If specified on the plan the CONTRACTOR shall have his surveyor provide grade sheets. The grade sheets shall be submitted to the CONSTRUCTION MANAGER for approval one week in advance of any grading operations.

2.0 PROTECTION OF PERSONS AND PROPERTY

A. General: comply with provisions of Article 30 - Protection of Persons And Property And Restoration Of Existing Improvements in the GENERAL CONDITIONS.

B. Protections of persons and property: provide and install signs, barricades and other required devices or techniques at danger points in the job site to guard against accidents, etc.

C. Existing improvements: protect against damage resulting from CONTRACTOR'S operations. Repair or replace damaged items to the full satisfaction of the CITY at no additional cost to the CITY.

1. See: Tree Protection Requirements, sheet L100 for addition requirements.

D. Existing utilities: utilities shown on the drawings are shown pursuant to a search of available records and are shown as a matter of information and not as a matter of fact. Conforming with GENERAL REQUIREMENTS and other sections of the Project Manual, the CONTRACTOR shall locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

1. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, CONTRACTOR shall notify the CONSTRUCTION MANAGER immediately for direction. CONTRACTOR shall cooperate with CITY and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility company.

2. Do not interrupt existing utilities serving facilities occupied and used by CITY and others, during occupied hours, except when permitted in writing by the PROJECT MANAGER and then only after acceptable temporary utility services have been provided.

3. Provide a minimum of 48-hour notice to the PROJECT MANAGER and receive written notice to proceed before interrupting any utility. Obtain clearance and notify all utility companies in the area and call underground service alert by calling (800) 422-4133. Deliver utility clearance ticket number to the BCA inspector prior to the start of any work.

4. Demolish and completely remove from site existing underground utilities ***indicated to be removed***. Coordinate with utility companies for shut-off of service if lines are active.

2.1 ENVIRONMENTAL CONTROL

CONTRACTOR shall comply with provisions of Article 5 in GENERAL REQUIREMENTS – Environmental Control and Mitigation, to include:

A. Site sanitation and odor control: use means necessary to provide sanitary conditions at job site and prevent a nuisance to the public, to neighbors, and to other work being performed on or near the job site. Comply with all applicable codes and ordinances.

B. Dust control: use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the job site. Comply with all applicable codes and ordinances.

C. Noise and vibration: comply with requirements of CITY noise ordinances and mitigation specified in general requirements.

D. Storm water pollution control: the CONTRACTOR is responsible for obtaining all required permits and deploying all required storm water pollution control measures for construction activities, including when required:

1. Comply with the state general construction activity storm water permit.

2. Wet weather erosion control plan (WWECP)

3. The CONTRACTOR Stormwater Pollution Prevention Plan (SWPPP): CONTRACTOR is responsible for the payment of the notice of intent (NOI) to the State of California Water Resources Control Board to comply with the California General Construction Activity Stormwater Permit (NPDES NO. CAS000002), and the prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) document, which is to be prepared by a qualified SWPPP developer (QSD). This document is to be submitted to the PROJECT MANAGER for approval and submission to the State Water Resources Control Board. The SWPPP must describe the erosion control practices being implemented during construction and the selection and implementation of appropriate BMP's to account for site-specific and seasonal conditions. CONTRACTOR shall draft the SWPPP before start of construction and submit it to the ENGINEER for approval; no construction work shall commence without an approved SWPPP. The document is to remain on the construction site and all of the measures stated in the document are to be implemented during the duration of construction. The QSD shall be responsible for creating, revising, overseeing and implementing the SWPPP and the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.

2. BUY CLEAN CALIFORNIA ACT

PART 1 – GENERAL

1.1 SUMMARY

A. For projects that include eligible materials, CONTRACTOR shall provide current facility-specific Environmental Product Declarations (EPDs) of eligible materials and meet the State of California maximum limits for Global Warming Potential (GWP) as listed by the State's Department of General Services after project award. Additional information regarding GWP limits may be found at the following website:

https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-California-Act

B. Eligible Materials:
1. Steel: This includes structural steel (hot-rolled sections, hollow structural sections, and plates) and carbon steel reinforcement used in concrete or masonry.
2. Concrete

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OFFICIAL RECORD

1.2 SUBMITTALS

A. Submitted facility-specific Environmental Product Declarations (EPD) must be a current Type III as defined by the International Organization for Standardization (ISO) Standard 14025, and has been 3rd Party verified following applicable Product Category Rules (PCRs). Credentials of 3rd Party showing them to be subject matter experts must be provided by the CONTRACTOR upon request. Minimum stage of coverage for EPDs shall consist of the production life cycle (i.e. product stage) or "cradle to gate". PCR shall be as identified by California Department of General Services for the Buy Clean California Act (BCCA).

B. The EPDs shall be submitted with each eligible material submittal for the product(s) under the technical specification sections for approval by the ENGINEER. Depending on the number of facilities, and product types, more than one (1) eligible material submittal may be required. Once approved, the CONTRACTOR must also provide a copy of the approved EPDs with the payment request to the INSPECTOR. Where a submittal is conditionally approved, pending submission of required EPD, the applicable restrictions as noted below shall apply.

C. Restrictions:

1. The CONTRACTOR shall not install any eligible materials or incorporate into the work in any way until the required facility-specific EPDs have been provided and approved, unless otherwise agreed upon by the ENGINEER. Payment for specific eligible material will be withheld until the EPDs for these materials are approved by the ENGINEER and submitted along with the progress payment requests.

2. The CONTRACTOR may be assessed liquidated damages for failure to complete the project within the time fixed by the terms of the contract resulting from Contractor delays associated with submission and approval of the required EPDs.

D. Optional Eligible Materials:
The following materials are being considered for addition to future Eligible Materials list by the City of Los Angeles. As such, Section C above does not apply to these materials at this time. Furthermore, when using one of the Optional Eligible Materials listed in this Section D below, the CONTRACTOR may submit either facility-specific EPDs as noted on Article C above or an industry average EPD. The Optional Eligible Materials are as follows:

1. Concrete (i.e. corresponding mix designs).

3. SITE CLEARING AND DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION

Perform all site clearing and demolition on the job site as indicated on the Contract Drawings.

A. Demolition shall include the removal and disposal of all constructed site features designated on the Contract Drawings for removal, including all below-ground components such as footings, etc.

B. Site clearing shall consist of removing all vegetation such as trees, roots, stumps, shrubs, brush, limbs; and stone, boulders, wood and other vegetative growth from the ground surface. Clearing shall also include the removal and disposal of trash piles, rubbish, debris, etc.

C. CONTRACTOR shall furnish all tools, equipment materials and supplies and shall perform all labor to complete the work associated with removal of all designated natural and artificial material from the areas of work as indicated in the contract documents.

PART 2 - PRODUCTS

2.1 MATERIALS

Provide materials not specifically described but required for completion of the work of this section as selected by the CONTRACTOR subject to the approval of the ENGINEER.

PART 3 - EXECUTION

3.1 SITE CONDITIONS

Examine the job site and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper site-clearing operations, as directed by the ENGINEER. Do not proceed until such detrimental conditions have been corrected.

3.2 PROTECTION

Protect existing trees and shrubs indicated to remain in the Contract Drawings per tree protection requirements in sheets L100.

1. Prior to commencement of site clearing work, all Tree Protection fencing shall be installed and approved by the ENGINEER.

3.3 SITE CLEARING AND GRUBBING

A. General:

1. For drawing clarity, not all trees, shrubs, brush, grass, weeds, or exact amount of trash or debris are shown on the drawings. CONTRACTOR shall carefully study the Contract Drawings and visit the job site and verify the extent of the work to be done prior to bidding.

2. 48 hours prior to commencement of clearing, grubbing and stripping operations, the CONTRACTOR shall request a site meeting to include the BCA inspector, PROJECT MANAGER, project ENGINEER and other CITY staff as designated by the PROJECT MANAGER to review and clearly mark all existing vegetation to remain, and to mark the extents of any required tree protection fencing.

B. Site clearing operations

1. Remove all surface vegetation indicated on the Contract Drawings for removal. Remove all roots, and stumps and other undesirable materials to a depth of at least (2) feet below existing ground surface.

2. Remove all concrete and masonry debris, including footings.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

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REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

LANDSCAPE ARCHITECT
RICHARD A. FISHER
No. 3940
REGISTERED
10-31-21
Richard A. Fisher
04-05-21
DATE
STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	DATE: 04/21/2021	
DESIGNED BY: GREG MOESER		04/21/2021	
DRAWN BY: GREG MOESER		04/21/2021	
CHECKED BY: RICHARD FISHER		04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT			08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES
SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L001
SHEET 8 OF SHEETS 74

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3. Remove all existing rubbish and debris or material resulting from work operations of this section as soon as possible and dispose of properly per general requirements.

4. Where active utility lines need to be capped or plugged, perform such work in accordance with requirements of the utility company or government agency having jurisdiction and conform to relevant provisions of the general requirements.

5. Existing utility services to remaining structures are to be maintained at all times.

3.4 STRIPPING

A. Stripping shall include the removal and disposal of all surface organic sod, grass and grass roots, topsoil and other objectionable material remaining after clearing and grubbing from the areas designated in the Contract Drawings. The depth of stripping shall be as shown on the drawings and/or specified herein.

B. Prior to beginning any excavation or fill, strip the existing topsoil to a depth of 12" or as sufficient to remove all organic material, and stockpile for future use. In general, topsoil shall be removed where structures are to be built, trenches dug, and roads, parking lots, walks, and similar improvements constructed within the areas presently covered with topsoil.

3.5 TOPSOIL

A. If on site topsoil is specified for reuse, stockpile topsoil in an area clear of new construction or where directed by the ENGINEER or the CONSTRUCTION MANAGER.

B. Maintain topsoil stockpiles in a manner which will not obstruct the natural flow of drainage.

1. Maintain the stockpiled topsoil free from debris and trash.

2. Keep the stockpiled topsoil moist to prevent drying out and creating a dusts source.

3. Place and compact topsoil backfill in the planting areas where designated on Contract Drawings. See section landscape planting for amendment requirements.

3.6 REMOVAL AND DISPOSAL OF CLEARING AND GRUBBING DEBRIS

General: all undesirable materials removed during site clearing and demolition shall be disposed of per general requirements. No accumulation of flammable material shall remain inside the limit of work.

3.7 STORAGE OF MATERIALS AT THE JOB-SITE

Storage of removed materials is not permitted beyond brief accumulation awaiting pick up by removal trucks. Delays in the removal of site-clearing materials from the job site shall be subject to the approval of the CONSTRUCTION MANAGER or the BCA inspector.

4. GENERAL EARTHWORK

PART ONE - GENERAL

1.1 SUMMARY

A. Provide and execute grading work as indicated on the Contract Drawings or in the Project Manual including but not limited to the following:

1. General excavating and trenching for various trades.

2. General exterior grading and cutting.

3. General excavating for site improvements.

1.2 QUALITY ASSURANCE

Codes and standards: perform excavation work in compliance with applicable ordinance of governing authorities having jurisdiction including, but not limited to, the:

A. Testing and inspection services: the CITY will provide qualified soil testing and inspection for quality control during earthwork operations. Testing shall be performed in accordance with the approved soil report and testing standards, the instructions of the geotechnical ENGINEER and the applicable sections of general conditions.

B. GEOTECHNICAL ENGINEER: the CITY will retain the services of a GEOTECHNICAL ENGINEER for the purpose of soil investigations and compaction testing, all the necessary inspections and observations, and certifications.

C. Survey: the CONTRACTOR shall employ the services of a California Licensed Surveyor for the purposes of survey control, layout, grade and cross-sections required to control work.

D. The CONTRACTOR shall be responsible for removal and disposal of all excess soil and debris from the work area, (300-1.3.1, 300-2.6). No soil or debris shall be disposed of on Recreation and Parks property without the permission of the PROJECT MANAGER.

E. The CONTRACTOR shall conform to section 7-8.1 of the SSPWC latest edition with the current yearly supplements for clean-up and dust control.

F. Unexpected ground water conditions encountered during the course of the work shall be brought to the immediate attention of the GEOTECHNICAL ENGINEER.

1.3 SUBMITTALS

Conform to provisions of article 10 of the GENERAL REQUIREMENTS. Required submittals for earthwork include, but are not limited to:

A. Dewatering plans, only if required. Refer to geotechnical report for expected existing conditions.

1.4 PERMITS

A. Required: in addition to the requirements specified herein, and in applicable sections of the GENERAL REQUIREMENTS of the Project Manual.

B. The CONTRACTOR shall perform all work in accordance with the permit requirements of the LADBS, including obtaining the Grading Permit; and if required, a hauling permit and bond, and making the required notification to the adjacent property owners; at no additional expense to the CITY.

C. CONTRACTOR shall furnish the BCA Inspector with a duplicate copy of OSHA excavation permit when required, and all other required permits prior to the start of the excavation work.

D. The CONTRACTOR shall make all necessary notifications, obtain and pay for required permits and file manifests with the South Coast Air Quality Management District (S.C.A.Q.M.D.) when required.

1.5 JOB CONDITIONS

A. Required work coordination: the CONTRACTOR shall fully coordinate the work operations of this section with that of other trades involved and with the ENGINEER to assure proper sequence of work, limitations, methods and time of work so as to minimize or avoid interference with the existing utilities as well as performance of work by the other CONTRACTORs.

B. CONTRACTOR shall include minimum two weeks in the construction schedule to allow the soil ENGINEER to prepare final soil report to be submitted to the Los Angeles City Department of Building and Safety Grading Division for final approval if the soil ENGINEER is obtained by the CITY. The CONTRACTOR shall coordinate and arrange for all the inspections with the local authorized agencies and the Bureau of Contract Administration.

1.6 PROTECTIONS

A. Protect existing trees and shrubs indicated to remain in the Contract Drawings per Tree Protection Requirements on sheet L100.

B. Water: divert or pump out of all excavations until concrete and other items are placed therein, forms removed, and backfilling is completed. Comply with all applicable Codes and Regulations.

1.7 INSPECTION

The CONTRACTOR shall notify the BCA Inspector and CONSTRUCTION MANAGER three (3) days prior to requested date of inspection of the following for approval:

1. All excavations and trenches shall be inspected by the BCA Inspector, LADBS Inspector, and the GEOTECHNICAL ENGINEER before filling, backfilling and/or other subsequent work is placed therein. Earthwork backfill for structures shall comply with requirements of Section 300-3.5 - Structural Backfill of SSPWC and/or requirements in the Project Manual.

2. Rough Grading: when forms have been set, they shall be reviewed by ENGINEER to verify alignment and grade. Offsets or vertical controls shall be verifiable in the field, or be provided in grade sheet form, and submitted to the CONSTRUCTION MANAGER for approval prior to the inspection.

3. Finish Grade Review: for all finish grades in planting areas following rolling in turf areas and prior to landscape container planting.

PART TWO – PRODUCTS

2.1 SOIL MATERIALS

A. Suitable excavated fill material: suitable materials from excavations for use in fill shall be as per the approved soils report. Suitable materials from excavations for use in fill shall be as per the approved soils report. No rock, cobbles or broken concrete exceeding 2-inches in maximum dimension shall be placed in compacted fill without the specified approval of the GEOTECHNICAL ENGINEER. No rock, cobles or broken concrete exceeding 1-inch in maximum dimension shall be placed in compacted fill of a utility trench.

1. In landscape planting areas, the top 24" of any fill shall be "Class C" topsoil salvaged on site (800-1.1.2). See section LANDSCAPE PLANTING for additional information.

B. Base material: shall be "Crushed Aggregate Base", 3/4-inch maximum size aggregate, or "Crushed Miscellaneous Base", 1-1/2-inch maximum size aggregate], as specified in Contract Drawings and per Section 200-2 - Untreated Base Materials of SSPWC.

C. Trench backfill material:

1. Use clean earth materials previously removed from job site excavations, or use approved imported fill materials as above specified, free from clay, rock or gravel larger than 1-inches for utility trenches, subject to the SOIL ENGINEER'S approval prior to use. See related sections: STORMDRAIN SYSTEM, SANITARY SEWER SYSTEM, AND IRRIGATIONS SYSTEM for additional information.

D. Slurry backfill: slurry backfill shall be 60 E 0.7 (CLASS 100-E-100) and placed in accordance with Section 306-1.3.1 - Backfill And Densifications of SSPWC where required by the Contract Drawings.

PART THREE - EXECUTION

3.1 SURFACE CONDITIONS

Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until detrimental conditions are corrected.

3.2 GRADING

A. All grades between contours and/or spot elevations shall be assumed to be straight grades. There shall be no localized depressions or humps, (801-2.1).

B. The CONTRACTOR shall verify all grades and amounts of cut and fill before commencing work.

C. Rough grade: leave cut and fill sufficiently high to require subsequent cutting by fine grading.

D. Fine grade: to elevations indicated on Contract Drawings and as required to ensure proper drainage.

3.3 EXCAVATION

A. General:

1. Excavation shall consist of the removal and disposal of materials necessary to establish required grade elevations and certified compacted fill for new construction pursuant to (300-2) of SSPWC and the approved soils report.

2. Excavated materials suitable for use as fill and/or backfill to be stockpiled where approved by the PROJECT MANAGER.

3. Non-approved and excess excavated materials shall be legally removed and disposed of from the job site at the CONTRACTOR's expense.

4. Encountered existing underground utility piping or conduits: immediately stop the trench operations at the point of encounter and notify the PROJECT MANAGER of such condition and submit utility support drawings to the PROJECT MANAGER for approval. The support drawings shall be in conformance with the BOE Standard Plans S-253, Supports for Storm Drain and Sewer Pipes Across Trenches, latest edition; CAL/OSHA and the utility company's requirements.

B. For site improvements:

1. For concrete curbs: to exact curb limit, without excessive removal of adjacent paving or subgrade for new paving, subject to the requirements of the approved soils report.

2. For site improvements such as concrete and/or asphalt pavements, concrete walkways, driveways aprons, concrete curb and gutter: excavate to exact limits of such work without excessive removal of existing subgrade, unless otherwise indicated in the approved soils report.

C. Conduit and piping: conforming to the requirements as specified on the drawings, Los Angeles CITY plumbing code, SSPWC and other sections of the Project Manual. Any piping with 8 feet or less cover or backfill, Case 1 Bedding installations of BOE Standard Plan S-251, latest edition, shall be used for all piping laying unless otherwise specified on the drawings or noted.

D. Depth and width of trench for storm drainage piping: to depth necessary for installation of piping and construction of catch basins and as noted on the Contract Drawings. Provide minimum 7-½ inches side clearance from side of the piping, unless otherwise noted. Make the sides vertical and the bottoms smooth, firm, level or uniformly sloped as required. Unless specified otherwise, provide minimum 2 inches washed sand bedding below the pipe barrel. See STORM DRAIN SYSTEM for additional information.

E. Depth and width of trench for sanitary sewer piping: as necessary for complete installations of the piping, fixtures and controls; provide minimum 7-1/2 inches side clearance from side of the piping, unless otherwise noted; make the sides vertical and bottoms smooth, firm, level or slopes, as required by the code for proper drainage. Final elevations shown on Contract Drawings shall mean the invert pipe elevations. Conform to the requirements as specified in the Los Angeles City Plumbing Code and in Division 15 of the Project Manual. Unless specified otherwise, provide minimum 4-inches of washed sand bedding below the pipe barrel. Place all sanitary sewer piping to a minimum depth no less than 24 inches. See SANITARY SEWER SYSTEM for additional information.

F. Depth and width of trench for electrical conduit and pull box: as necessary for complete installation of the electrical conduits and pull box, unless specified otherwise, provide minimum 7-1/2 inches side clearance from the side of the conduit and pull box see electrical plans for required trench depths.

G. Depth and width of trench for landscape irrigation piping: as necessary for complete installation of the piping fixtures and low-voltage wiring conduit; provide a minimum of 7-1/2 inches side clearance from the side of the piping. Depth of piping and low-voltage conduit shall be conformance with the requirements listed in Section "IRRIGATION SYSTEMS".

3.4 SUBGRADE PREPARATION

A. Excavation of subgrade. For permitted structures, paving, roads, and vehicular pathways, playground, and basketball court. over-excavate the existing soil including fill material, debris, roots and foreign materials to natural subgrade at the proposed location. Over-excavation shall be to the depth and extended to each side beyond the edge of construction as indicated in the approved soils report. Completed over-excavation shall be approved by the geotechnical ENGINEER and LADBS Grading Inspector prior to placing fill.

1. If unconsolidated fill material is encountered below the required depth of excavation, CONTRACTOR shall notify the GEOTECHNICAL ENGINEER immediately.

B. Subgrade Preparation: All exposed over-excavation bottoms shall be scarified to a minimum depth of 6 inches, moisture conditioned, and compacted to a minimum 90% relative compaction as determined by ASTM 01557. Subgrade soils with less than 15 percent clay content (finer than 0.005 mm) below new structural foundations shall be compacted to a minimum 95% relative compaction. Native sandy soils at subgrade shall be moisture conditioned to 2 percent above optimum moisture content before compaction.

C. Backfill and Re-compaction: shall be in accordance with the approved soils report.

1. Inspection and approval of subgrade by LADBS inspector and the GEOTECHNICAL ENGINEER is required prior to placing fill. CONTRACTOR shall allow GEOTECHNICAL ENGINEER to obtain compaction tests as required for each layer or volume as specified by code or as indicated in the approved soils report. Testing shall be completed by GEOTECHNICAL ENGINEER, their representative or by the Department of General Services, Standards Division, under the direction of BCA. See related sections: STORMDRAIN SYSTEM, SANITARY SEWER SYSTEM, AND IRRIGATIONS SYSTEM for additional information.

D. Dewatering:

1. Remove all water, including rainwater, encountered during trench and sub-grade work to an approved location by pumps, drains, and other approved methods.

2. Keep excavations and site construction area free from water.

E. Moisture control: where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material. Apply water in manner to prevent free water appearing on surface during or subsequent to compaction operations.

1. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

2. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or turning until moisture content is reduced to a satisfactory value.

F. Rework: any previously compacted or tested subgrade and fill material, which are affected or disturbed, in the opinion of the GEOTECHNICAL ENGINEER, by the inclemency of the weather such as rains, floods, earthquake or others shall be reworked, retested and re-inspected at no additional cost to the CITY.

3.5 FILLING

A. General: construct in accordance with the approved soils report.

B. Placed fill in planting areas shall be compacted to no more than 90% relative compaction. For topsoil fill in the upper 24" of the profile, see Section "LANDSCAPE PLANTING" for more information.

3.6 BACKFILLING

A. Prior to backfilling: remove any debris, trash or foreign material from excavation.

B. Inspection required: prior to backfilling operations, for compaction of subgrade or trench bottom.

C. Placement of backfill: in accordance with the approved soils report. See related sections: STORMDRAIN SYSTEM, SANITARY SEWER SYSTEM, AND IRRIGATIONS SYSTEM for additional information.

D. Slurry backfill: in areas where specified and/or around the utilities, vaults or other structures where the soil ENGINEER determines that it is not practical to attain the required compaction by the mechanical methods or water densification, provide a trench slurry backfill 60-E0.7 (Class 100-E-100).

3.7 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal from City's property: remove waste materials, including unacceptable excavated material, trash and debris, and dispose of it off CITY's property in a legal manner and to conform with the requirements in the GENERAL REQUIREMENTS and SSPWC (300-26).

5. REINFORCEMENT STEEL

PART 1 -- GENERAL

1.1 SUMMARY

A. The CONTRACTOR shall furnish, fabricate, and place all concrete reinforcement steel, welded wire fabric, couplers, and concrete inserts for use in reinforced concrete and masonry construction and shall perform all appurtenant work, including all the wires, clips, supports, chairs, spacers, and other accessories, all in accordance with the Contract Documents.

B. RELATED WORK SPECIFIED ELSEWHERE:
-- Cast-in-Place Concrete

C. REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

Comply with the reference standards of the GENERAL REQUIREMENTS.

Comply with the current provisions of the following Codes and Standards, as applicable:

Commercial Standards:

ACI 315	Details and Detailing of Concrete Reinforcement.
ACI 318	Building Code Requirements for Reinforced Concrete.
ACI 530	Building Code Requirements & Specifications for Masonry Structures
WRI	Manual of Standard Practice for Welded Wire Fabric
ASTM A185	Specification for Welded Steel Wire Fabric For Concrete Reinforcement.
ASTM A615	Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
CRSI	Recommended Practice for Placing Bar Supports, Specifications and Nomenclature
CRSI	Recommended Practice for Placing Reinforcing Bars

Government Standards:

GWP	Global Warming Potential (maximum acceptable carbon emission limits, established by the California Department of General Services)

1.2 SUBMITTALS

A. Submittals shall be made in accordance with the GENERAL REQUIREMENTS.

B. Buy Clean California Act.

1. For project specifications that include GR Section 1601, Buy Clean California Act, bidders shall submit current Environmental Product Declarations (EPDs) for each type of reinforcing steel material (A615, A706) from the originating mill used in the project as well as corresponding mill certifications. When material comes from different mills, an EPD and mill certification will be required for each mill from which the material has been obtained.

2. An EPD must conform to the following:
   a. Shall be facility-specific manufacturer/mill EPD.
   b. Be independently verified in accordance with ISO 14025 (Type III).
   c. Be developed according to the guidelines of the applicable Product Category Rule (PCR), as identified by the Department of General Services, State of California.
   d. Have a valid date that has not expired.
   e. Shall not exceed the Global Warming Potential (GWP) limit as required by GR Section 1601.
   f. EPD shall be submitted concurrently with the product's submittal for review and approval.
   g. Specified epoxy-coated or other specified coated reinforcing steel are exempt from having an associated EPD.

C. The following submittals and specific information shall be provided.

1. Shop Drawings when indicated on the plans an or details.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

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REVISIONS DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING — CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

JANE M. ADRIAN — LANDSCAPE ARCHITECT — NO. 3940 — REGISTERED PROFESSIONAL — 10-31-21 RENEWAL DATE — 04-05-21 DATE — STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SCHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L002
SHEET 9 OF SHEETS 74

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1.3 QUALITY ASSURANCE

A. All reinforcing steel fabrication shall be performed in a LADBS licensed fabricator shop for rebar.

B. The CONTRACTOR shall make provisions for sampling reinforcing steel delivered to the job site per requirements of BCA MATERIALS CONTROL DIVISION.

C. MARKING AND SHIPPING

1. Tag bundled bars with identification, and transport and store so as not to damage any material. Use metal tags indicating size, length and other marking shown on placement drawings. Maintain tags after bundles are broken.

PART 2 -- PRODUCTS

2.1 STEEL REINFORCEMENT

A. Reinforcing bars: shall be ASTM A615/A615m, Grade 60, deformed.

1. Reinforcement with any of the following defects will not be acceptable and be immediately removed from the site:

a. Bar lengths, depths, and/or bends exceeding the specified fabrication tolerances.
b. Bends or kinks not shown on the Drawings.
c. Bars with reduced cross-section due to excessive rusting or other cause.

B. Plain-steel wire: shall be ASTM A1064a/A1064m, as drawn.

2.2 REINFORCEMENT ACCESSORIES

A. Joint dowel bars: ASTM A615/A615m, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

B. Bar supports: Concrete blocks (dobies), used to support and position reinforcement steel, shall have the same or higher compressive strength as specified for the concrete in which it is located. Wire ties shall be embedded in concrete block bar supports.

1. Use bar supports complying with CRSI recommenda¬tions, unless otherwise shown on the Contract Drawings.
2. Do not use wood, brick, or other non-complying material.
3. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

PART 3 -- EXECUTION

3.1 GENERAL

A. All reinforcement steel, welded wire fabric, couplers, and accessories shall be fabricated, and placed in accordance with the requirements of the City of Los Angeles Building Code, CRSI Recommended Practices and Manual, and WRI, and the supplementary requirements specified herein.

3.2 FABRICATION

A. General: Reinforcement steel shall be accurately formed to the dimensions and shapes shown, and the fabricating details shall be prepared in accordance with ACI 315 and ACI 318 or ACI 350 (as applicable), except as modified by the Drawings. Bars shall be bent cold.

B. The CONTRACTOR shall fabricate reinforcement bars for structures in accordance with bending diagrams, placing lists, and placing drawings. Said drawings, diagrams, and lists shall be prepared by the CONTRACTOR as specified under GENERAL REQUIREMENTS.

C. Fabricating Tolerances: Bars used for concrete reinforcement shall meet the following requirements for fabricating tolerances:

Sheared length: ± 1 inch
Depth of truss bars: + 0, - 1/2 inch
Stirrups, ties, and spirals: ± 1/2 inch
All other bends: ± 1 inch

3.3 PLACING

A. Reinforcement steel shall be accurately positioned PER CONTRACT DRAWINGS and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections.

1. All reinforcement steel shall be supported using approved accessories and chairs which are strong and rigid enough to prevent any displacement of the reinforcement steel and shall comply with the applicable Department of Building and Safety's Research Report.
2. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) shall be used, in sufficient numbers to support the bars without settlement, but in no case shall such support be continuous.
3. All concrete blocks used to support reinforcement steel shall be tied to the steel with wire ties which are embedded in the blocks. Use care not to damage vapor barriers where they occur.
4. The portions of all accessories in contact with the formwork shall be made of concrete, plastic, or steel coated with a 1/8-inch minimum thickness of plastic which extends at least 1/2-inch from the concrete surface. Plastic shall be gray in color.
5. Tie wires shall be bent away from the forms to provide the specified concrete coverage.

B. Bars additional to those shown which may be found necessary or desirable by the CONTRACTOR for the purpose of securing reinforcement in position shall be provided by the CONTRACTOR at its own expense.

C. Placing Tolerances: Unless otherwise specified, reinforcement placing tolerances shall be within the limits specified in Section 7.5 of ACI 318 except where in conflict with the requirements of the City of Los Angeles Building Code.

D. Bars may be moved as necessary to avoid interference with other reinforcement steel, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed the above tolerances, the resulting arrangement of bars shall be reviewed and accepted by the ENGINEER.

E. Welded wire fabric placed over the ground shall be supported on wired concrete blocks (dobies) spaced not more than 3 feet on centers in any direction. The construction practice of placing welded wire fabric on the ground and hooking into place in the freshly placed concrete shall not be used.

3.6 CLEANING AND PROTECTION

A. The surfaces of all reinforcement steel and other metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar and other foreign substances immediately before the concrete is placed. Where there is delay in depositing concrete, reinforcement shall be reinspected and, if necessary recleaned. Bars with reduced cross-section due to excessive rusting or other cause will not be acceptable for use and shall be replaced by the CONTRACTOR at no additional cost to the CITY.

3.7 FIELD QUALITY CONTROL

A. Inspection: Secure inspection and acceptance from INSPECTOR before concrete is placed. CONTRACTOR shall make arrangements in advance for geotechnical inspection of foundations, continuous inspection as required, and/or structural observation by the designated registered design professional prior to concrete placement.

6. CAST IN PLACE CONCRETE

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, joints and finishes.

B. The CONTRACTOR shall furnish all materials for concrete in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished concrete, in accordance with the requirements of the Contract Documents.

C. The following types of concrete shall be covered in this Section:

1. Sitework Concrete: Concrete to be used for curbs, gutters, sidewalks, pavements, fence and post embedment, or as otherwise shown.

1.2 SUBMITTALS

A. Concrete Mix designs: Prior to beginning the WORK, the CONTRACTOR shall submit to the ENGINEER, for review, and acceptance, preliminary concrete mix designs for each class and type of concrete specified herein. The mix designs shall be designed by an independent testing laboratory acceptable to the ENGINEER. All costs related to such mix design shall be borne by the CONTRACTOR. Each concrete mix submittal shall contain the following information, as applicable:

1. Location and purpose of the mix.
2. Slump on which the design is based.
3. Total gallons of water per cubic yard, and the water/cementitious materials ratio (w/cm).
4. Brand, type, composition and quantity of cement.
5. Brand type, composition and quantity of fly ash, slag cement, silica fume.
6. Specific Gravity, source and gradation of each aggregate.
7. Compressive strength based on 7-day and 28-day compression tests, including standard deviation calculations, corroborative data (if applicable), and required average comprehensive strength per ACI 318.
8. Certification stamp and signature by a Civil or Structural engineer registered in the State of California, experienced in concrete mix design.
9. Certificate of Compliance for Cement.
10. Concrete pour sequence.
11. Buy Clean California Act
    a. For project specifications that include GR Section 1601, Buy Clean California Act, bidders shall submit current Environmental Product Declarations (EPDs) for: each concrete mix design, from the originating ready-mix plant used in the project. When material comes from different plants, an EPD will be required for each plant from which the material will be obtained.
    b. An EPD must conform to the following:
        i. Shall be facility-specific manufacturer/plant EPD.
        ii. Be independently verified in accordance with ISO 14025 (Type III).
        iii. Be developed according to the guidelines of the applicable Product Category Rule (PCR), as identified by the Department of General Services, State of California.
        iv. Have a valid date that has not expired.
        v. Shall not exceed the Global Warming Potential (GWP) as required by GR Section 1601.
    c. EPD shall be submitted concurrently with each mix submittal for review and approval.

B. Material information: for each of the following, as provided by manufacturers:
1. Admixtures. Provide a copy of the Building and Safety Research Report Approval for each concrete admixture.
2. Form release agents.
3. Joint filler products.

C. Load tickets: in addition to the CONTRACTOR's copy, deliver a legible copy of each load ticket from the producer to the BCA inspector. Load ticket shall state quantities of all material in each load and shall be signed by weigh master. The BCA inspector shall record on each copy, the slump and location where placed on the job. Maintain tickets at jobsite.

D. Material test reports: for the following, from a qualified testing agency:
1. Aggregates: include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.

1.3 QUALITY ASSURANCE

A. Installer qualifications: CONTRACTOR shall employ on the project an installer qualified as ACI-Certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

B. Quality control: do not commence placement of concrete until mix designs have been reviewed and approved by the PROJECT MANAGER or ENGINEER, and until copies are at the jobsite.

C. Batch plant inspections: required for all structural concrete. Inspection shall be by a CITY BCA material control inspector. The CONTRACTOR shall notify the inspector at least 24 hours in advance of mixing time. The BCA materials inspector shall be present at the beginning of each day of batching and shall perform the following:

1. Check plant and equipment quality.
2. Check identity of materials.
3. Check aggregate grading, characteristics, and water content.
4. Verify mix designs being used.
5. Check proportioning and loading of concrete materials.
6. Issue certifications of quality and quantity of materials as batched.
7. After verification of above, return to the jobsite for placement inspection.

D. Continuous placement inspection: required for all structural concrete and to be performed by an LADBS certified deputy inspector approved by the PROJECT MANAGER. The BCA inspector shall perform the following procedures:

1. Verify condition and adequacy of forms and reinforcement placement.
2. Ensure that concrete is of required quality and consistency.
3. Ensure that all requirements and conditions of concrete placement are met.
4. Make slump tests and secure cylinders.
5. Provide written reports at regular intervals reporting concrete practices.

E. Mockups: provide approx. 4-foot by 4-foot mockups to adequately portray the specified finishes, reveals, formwork, joints, etc. For each concrete finish indicated on the plans and listed below for the ENGINEER's approval prior to commencing concrete work. CONTRACTOR shall continue to construct mock-ups until an approved mock-up for each specified finish is produced at no additional cost to the CITY. Acceptable mock-ups shall be made the job standard for each finish, and workmanship. Protect accepted mock-ups from damage until completion and acceptance of the work represented by the mock-ups. Remove mock-up panel(s) from the site at completion of the project, unless otherwise instructed by PROJECT MANAGER.

1. Specified finishes to be mocked up:

a. Concrete paving: medium broom finish, unless otherwise noted.

BUREAU OF ENGINEERING
OFFICIAL RECORD

1.4 DELIVERY, STORAGE, AND HANDLING

A. Steel reinforcement: deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

1.5 FIELD CONDITIONS

A. Hot-weather placement: comply with ACI301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 – PRODUCTS

2.1 CONCRETE MATERIALS

A. Cementitious materials:
1. Portland Cement: all cement shall be Type II, low alkali Portland Cement conforming to ASTM C150 (201-1.2).
2. Fly ash: ASTM C618, class F.

B. Normal-weight aggregates: the aggregates for all concrete construction shall be fractured face aggregates obtained from a quarry that is certified non-reactive by an approved testing laboratory as approved by the Bureau of Contract Administration, (201-1.2.2). Unless otherwise noted.

1. Maximum coarse-aggregate size: 3/4-inch nominal.

C. Water: ASTM C94/C94m and potable.

2.2 CONCRETE MIXTURES

A. Concrete specified by class: placed concrete shall be Class 520-C-2500, maximum 4-inch slump unless otherwise noted on Contract Drawings. Pumped concrete shall be Class 560-E-2500, maximum 6-inch slump unless otherwise noted on Contract Drawings. A complete delivery receipt shall be required for each truckload of concrete delivered. The receipt shall be given to the BCA Inspector, (201-1.1.2).

1. Minimum compressive strength: 2,500 PSI at 28 days.
2. Slump limit: 4-inches, plus or minus 1-inch.

2.3 CONCRETE MIXING

A. Ready-mixed concrete: measure, batch, mix, and deliver concrete according to ASTM C94/C94m and ASTM C1116/C1116m and furnish batch ticket information to BCA inspector.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

2.4 CONCRETE JOINT MATERIALS

A. Expansion joint material: expansion joint material shall be min. 3/8-inch-thick closed-cell, polyethylene low resistance joint filler, by Celltex Ltd., or approved equal.

B. End of pour joints: end of pour joints shall be min. 3/8-inch-thick closed-cell, polyethylene low resistance joint filler, by Celltex Ltd., or approved equal.

C. Joint urethane sealant: expansion and isolation joint sealant material shall be a urethane elastomeric sealant for concrete pavement shall be Sikaflex®-1A by Sika Corporation, or an approved equal, (201-3). Color to match concrete.

PART 3 – EXECUTION

3.1 STEEL REINFORCEMENT INSTALLATION

A. General: comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Securely fasten steel reinforcement and wire ties against shifting during concrete placement. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.2 JOINTS IN CONCRETE

A. General: construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction joints: install so strength and appearance of concrete are not impaired, at locations indicated or as approved by ENGINEER.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated.
2. Form keyed joints where indicated. Embed keys at least 1-1/2 inches into concrete.

C. Contraction joints in slabs-on-grade: form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at minimum one-fourth of the concrete thickness as follows:

1. Tooled joints: form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8-inch. Repeat tooling of contraction joints after applying surface finishes. Eliminate tool marks on concrete surfaces.

2. Saw-cut joints: form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation joints in slabs-on-grade: after removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating not less than 1/2-inch or more than 1-inch below finished concrete surface where joint sealants are indicated.

E. Doweled expansion joints: shall be placed against previously constructed concrete structures or as indicated in the plans (303-5.4.2) and the applicable details. Install dowel bars and support assemblies at joints where indicated. Lubricate one-half of dowel length to prevent concrete bonding to one side of joint. Install per details.

3.3 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

B. Deposit concrete continuously in such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated.

C. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures.

1. Maintain reinforcement in position on chairs during concrete placement.

2. Screed slab surfaces with a straight-edge and strike off to correct elevations.

3. Slope surfaces uniformly to drains where required, and as indicated on Contract Drawings.

3.4 MISCELLANEOUS CONCRETE ITEM INSTALLATION

A. Repairs and filling: fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the work.

B. Curbs: provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded per details.

C. Equipment bases and foundations:

1. Verify locations, sizes, depths, and height above finish and of concrete bases with approved equipment provided and Contract Drawings.

2. Minimum compressive strength for bases and foundations shall be 4,500 PSI at 28 days unless otherwise noted. See structural plans and details.

3. Prior to pouring concrete, place and secure all anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.6 CONCRETE PROTECTION AND CURING

A. General: protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 301 for hot-weather protection during curing. Cure formed concrete according to ACI 308.1.

B. Exposed un-formed surfaces: begin curing slabs, sidewalks, driveway approaches, walkways and other exposed surfaces immediately after finishing concrete.

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REVISION DATES
(DESIGN STAGE ONLY)

ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
RICHARD M. FISHER
No. 3940
10-31-21
REGISTERED
04-06-21
DATE
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ARCHITECTURAL DIVISION	DATE:	08/05/2021
LIC. NO.: 3940	04/21/2021	
LANDSCAPE ARCHITECT: JANE ADRIAN	04/21/2021	
DESIGNED BY: GREG MOESER	04/21/2021	
DRAWN BY: GREG MOESER	04/21/2021	
CHECKED BY: RICHARD FISHER	04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 VICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L003
SHEET 10 OF SHEETS 74

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3.7 JOINT SEALING

A. For expansion and isolation joints in concrete: remove dirt, debris, saw cuttings, curing compounds, etc. From joints; leave contact faces of joints clean and dry.

B. Install approved joint sealer according to manufacturer's written instructions and applicable details.

3.8 CONCRETE SURFACE REPAIRS

A. Defective concrete: repair and patch defective areas when directed by BCA Inspector. Remove and replace concrete that cannot be repaired and patched to ENGINEER's approval.

B. Repairing un-formed surfaces: test un-formed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, pop-outs, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.

2. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out to the nearest control joints and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

3. Repair random cracks and single holes 1-inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

3.9 FIELD QUALITY CONTROL

A. Special inspections: engage a LADBS Deputy Special Inspector and qualified testing to perform field tests and inspections and prepare test reports when required by Codes or Contract Drawings.

B. Required inspections. BCA Inspector shall inspect the following prior to concrete placement:

1. Steel reinforcement placement.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.

C. Samples: BCA Inspector will select and take samples for testing during the course of the work as considered necessary. Cost of testing will be paid for by the CITY.

D. Rejected materials: CONTRACTOR shall remove off the site all concrete below specified strength.

E. Cost of removal and retesting: CONTRACTOR shall pay for full cost of removal of rejected concrete and its replacement with concrete if specified strength and retesting.

7. ASPHALT PAVING AND RESURFACING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide all work indicated on the drawings and in other sections of the project manual; including but not limited to:

1. Asphalt concrete paving.
2. Asphalt concrete paving repairs.
3. Seal coating.
4. Concrete wheel bumpers.
5. Parking lot striping and disabled symbol marking.
6. Disabled parking accessible signage.

1.2 SUBMITTALS

A. Asphaltic concrete:

1. Submit a mix design for asphaltic concrete prepared by a material laboratory under the direction of a California Registered Engineer.
2. Certificates: submit certificates signed by the materials producer and the asphalt paving Sub-CONTRACTOR, stating that materials meet or exceed the specified requirements prior to any fabrication. Submit the certified delivery tickets for each truckload of asphaltic material delivered to the job site.

B. Product data: submit to the ENGINEER the data on all proprietary items, materials, etc. To be used in the work of this section, as conforming to the specified requirements of this section.

PART 2 - PRODUCTS

2.1 ASPHALT CONCRETE MATERIALS

A. Asphalt: Asphalt to be used for sidewalks, sports courts or *overlayment* shall be type D2-PG 64-10-50. Asphalt for parking lots and roadway construction shall be type C2-PG 64-10-50, (203-6.3). See applicable details in Contract Drawings.

1. Paving for basketball courts or other designated court play areas shall be 1" of Type D asphalt over 3" of type C2 asphalt with a viscosity of AR 4000. If the 1" overlayment is constructed within 48 hours of the base course and no dirt or organic matter has fallen on the base course, then no tack coat is needed. If the base course is dirty or it has been over 48 hours since laying the base course then it shall be cleaned with a rotary power-operated vacuum sweeper to remove all dirt, water, oil and foreign matter. Prior to laying the overlayment the base course shall have a tack coat uniformly applied to the base course.

2.2 MISCELLANEOUS MATERIALS

A. Aggregate base: as specified in section 2 - EARTHWORK.

B. Asphalt sealcoat: The asphalt-based sealcoat shall be as specified on Contract Drawings:

1. Where indicated, the sealcoat shall be Guardtop "Coolseal" grey colored asphalt-based sealcoat or approved equal. Material shall have an SRI (solar reflective index) of no less than 30. Apply per Manufacturer's instructions. Refer to manufacturer's website for technical bulletin and SDS sheet.
2. Where indicated, the sealcoat shall be Guardtop asphalt-based sealcoat or approved equal. Apply per Manufacturer's instructions. Refer to manufacturer's website for technical bulletin and SDS sheet.

C. Prime coat: consisting of Grade SC-250 liquid asphalt, applied at a rate between 0.10 and 0.25 gallon per square yard, conforming to section 302-5.3 - Prime Coat of the SSPWC.

D. Tack coat/binder: Grade SS-1H emulsified asphalt at an approximate rate of 0.05 to 0.10-gallon per square yard), conforming to section 302-5.4 - Tack Coat of the SSPWC.

E. Adhesive for securing of concrete wheel bumpers to concrete paving: a long curing, two-component type epoxy adhesive, manufactured by Edeco, Furance, Andrew Brown or approved equal.

F. Paint for parking stalls and game courts shall be regular dry type non reflective, applied at a wet film thickness of 15 mil min. traffic paint, as manufactured by Vista Paint, or an approved equal in the specified color, per Section (310-5), (210-1).

G. Wood headers: in accordance with section (302-5.5), 2" x 4" inch size Construction heart grade redwood (S1S1E) edging with 2" x 4" stakes.

PART THREE - EXECUTION

3.1 JOB-SITE CONDITIONS

A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work, as directed by the ENGINEER.

3.2 ASPHALT CONCRETE PAVING

A. Asphalt paving thickness and courses shall be as indicated on the contract drawings and details.

B. Installation of underground piping crossing asphalt paving: where pipe or conduit is to be installed under existing A.C. paving, the paving shall be removed in clean straight parallel lines by saw-cutting. The resulting trench shall be backfilled to within 1" of the undersides of the existing A.C. paving with a two-sack concrete slurry mix. The existing A.C. paving shall have a tack coat applied before the new A.C. is placed.

C. Construction:

1. Prime coat: apply to the subgrade or aggregate base prior to placing the asphalt concrete and subbase; and to other surfaces designated by the BCA Inspector.
2. Tack coat: apply to concrete surfaces abutting new A.C. paving at least 24 hours prior to laying new work; apply to the surface of any course before the succeeding course or all cold pavement joints, curbs, gutters, manholes and the like. All the surfaces shall be free of water, foreign material or debris when the tack coat is applied.
3. Laying and compaction: in accordance with section 302-5.5 Distribution and Spreading and Section 302.5.6 - Rolling of the SSPWC.
4. Finish asphalt concrete surfaces smooth and even, to indicated elevations without low spots, hollow or irregularities and properly sloped for drainage.

D. Testing: Upon completion, the pavement shall be true to grade and cross section. When a straight edge is laid on the finished surface, the surface shall not vary from the edge of the straightedge no more than ⅛" inches, except at the intersection or at the change of grade.

1. Any area that is not within this tolerance shall be brought to grade by removing the paving material in the area to be repaired by an approved method. Provide a minimum laying depth of 1" inches of the new pavement material at the joint line. Repairs shall not be made to the pavement surface by feather edging at the joints.

E. 30 days after the asphalt concrete surfacing was installed, apply one coat of approved sealcoat to the surface, in accordance with manufacturer's instructions. Before application of the seal coat, the surface of the newly constructed asphalt concrete shall be thoroughly cleaned.

3.3 ASPHALT SEAL COATING

A. Required: over new asphalt concrete paving, or as otherwise directed in Contract Drawings.

B. Surface preparation: Clean all existing asphalt concrete surfaces of oil, grease, and foreign materials.

D. The CONTRACTOR shall not apply any seal coat if the weather is not suitable for the application. The CONTRACTOR shall notify the CONSTRUCTION MANAGER and the BCA Inspector minimum 24 hours in advance of the date the CONTRACTOR intends to begin work.

E. Protection: provide as required to avoid getting seal coat materials on exposed concrete, masonry and/or miscellaneous adjacent surfaces.

F. Application: apply 2 coats per manufacturer's instructions.

G. Curing: allow for curing and drying per manufacturer's instructions.

3.4 INSTALLATION OF CONCRETE WHEEL BUMPERS

A. Locations: in parking stalls where indicated on the Contract Drawings and details.

1. On asphalt concrete: secure in place with steel drift pins or pipe driven to at least 1/4" below top of a surface of the bumper unit. Fill holes with non-shrink grout to top surface of unit.

3.5 PARKING LOT STRIPING, LETTERS AND ARROWS.

A. Materials: as specified above.

B. Lines: 4" wide, or as indicated on the drawings.

C. Letters: sizes and strokes as indicated on the drawings. Minimum dry paint thickness shall be 9 mils.

D. Arrows: 10" stroke with proportionate head.

E. Handicapped parking striping: sizes and colors are in conformance with the State Of California, Code Of Regulations, Title 24. An international symbol of accessibility symbol shall be stenciled at the rear of the parking space. Each accessible parking unloading zone shall be marked.

F. Preparation: all surfaces to be free of dirt, grease or other foreign materials. Remove existing markings by sandblasting or other approved methods.

G. Application: apply one heavy undiluted coat with traffic line painting equipment in locations indicated on the drawings in uniform coverage, free from light spots and with all edges clean-cut and true. Paint by spray can shall not be allowed. Wet paint thickness shall be 15 mils.

3.6 DISABLED ACCESSIBILITY PARKING SIGN

A. Required: where indicated on the contract drawings Disabled Accessibility Parking Signage Complying with State Of California, Code of Regulation, Title 24.

B. Materials and fabrications: constructed of 3m Scotchlite brand reflective sheeting laminated to 18-gage heavy duty sheet steel and silkscreened in transparent blue with "disabled symbol" and/or the appropriate message in white. Sign to have a weather-resistant finish.

8. STORM DRAIN SYSTEM

PART ONE - GENERAL

1.1 DESCRIPTION

A. Furnish all labor, materials and equipment necessary to provide "on-site" Storm Drain System as shown on the Contract Drawing and specified herein, including:

1. Catch basins
2. Drainage Piping/Fittings
3. Clean outs
4. V-gutters
5. Lined LID (Low Impact Development) Biofiltration area

1.2 QUALITY ASSURANCE

A. Codes and Regulations: Conform to the applicable Los Angeles City Building Code and Amendments, Los Angeles City Bureau of Engineering Standard Plans, and the Standard Specifications for Public Works Construction (SSPWC), latest edition.

1.3 SUBMITTALS

A. Product Data: Within 35 calendar days after the Contractor has received the City's "Notice to Proceed", submit:

1. Materials list of items proposed to be provided under this Section and other related Sections;
2. Manufacturer's Specifications and other data needed to prove compliance with the specified requirements;
3. Manufacturer's recommended installation procedures which, when approved by the City Engineer or the Consultant, will become the basis for accepting or rejecting actual installation procedures used on the Work.

B. Shop Drawings: Submit site plan denoting drain basins with inverts, locations of lines, clean-outs, and appurtenances.

1.4 INSPECTION

A. Required:

1. All work inside the property lines regarding storm drain lines shall be inspected by the Los Angeles City Department of Building and Safety.

1.5 COORDINATION

A. Required: All on-site storm drain work shall be fully coordinated with other Contracted Work operations as per approved work scheduled.

PART TWO-PRODUCTS

2.1 CATCH BASINS

A. PVC surface drainage inlets shall include the drain basin type and size as indicated on the plans. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

B. The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a hermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

C. The grates and frames furnished for all surface drainage inlets shall be ductile iron for sizes and shall be made specifically for each basin to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast.

D. Backfill and Bedding Material for Catch Basin: The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. This requirement may be met with onsite soil subject to the approval of the geotechnical engineer. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321.

E. Catch Basin Filters: As indicated in Contract Drawings.

2.2 DRAINAGE PIPE MATERIALS/FITTINGS

A. ADS N12 Pipe:
1. Shall be ADS N-12 WT IB pipe (or approved equal) with smooth interior and annular exterior corrugations and shall meet ASTM F2648.
2. Joints: Pipe shall be joined using a bell & spigot joint meeting ASTM F2648. The joint shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.
3. Fittings: Fittings shall conform to ASTM F2306. Bell and spigot connections shall utilize a welded bell and valley or saddle gasket meeting the watertight joint performance requirements of ASTM F2306.

B. PVC Pipe: SDR 35 type, size per Contract Drawings. As per Section 207 - Pipe and Section 208 - Pipe Joint Types and Materials of the SSPWC.

C. Perforated Subsurface Drain Pipe: Provide shop-perforated with perforations symmetrically located within a maximum arc of 160 degrees. Perforations shall provide a total open area of at least 0.3 square inches per linear foot of pipe, with a minimum of one perforation per linear foot, except for joint areas. Perforation shall be either holes or slots. Hole diameters of 1⁄4-inch minimum to 3/8-inch maximum. Width of slots of 3/16-inch minimum to 5/16-inch maximum with slot length not exceeding 4-inches.

Backfill and Bedding Material for Pipe: Conform to the requirements of Section 3 - EARTHWORK, and Approved Soils Report as required. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. This requirement may be met with on-site soils subject to approval of the geotechnical engineer. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321.

2.3 CLEANOUTS

A. Required: As indicated in Contract Drawings.

B. Materials: As indicated in Contract Drawings.

2.4 V-GUTTERS

A. Required: As indicated in Contract Drawings

B. Materials: Formed concrete per Contract Drawings.

2.5 LINED LID (LOW IMPACT DEVELOPMENT) BIOFILTRATION AREA

A. Biofiltration Soil Mixture: A loamy sand blend (moderate percolation rate media of 5-10 in/hr) as supplied by Gail Materials, Corona, CA 92883; (951) 667-6106; www.gailmaterials.net or approved equal.

1. The planting media placed in the biofiltration area should achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Higher infiltration rates of up to 12 inches per hour are permissible. Planting media should consist of 60 to 80% fine sand and 20 to 40% compost.
2. Sand should be free of wood, waste, coating such as clay, stone dust, carbonate, etc. or any other deleterious material. All aggregate passing the No. 200 sieve size should be non-plastic. Sand for biofiltration should be analyzed by an accredited lab using #200, #100, #40, #30, #16, #8, #4, and 3/8 sieves (ASTM D 422 or as approved by the local permitting authority) and meet the following gradation (Note: all sands complying with ASTM C33 for fine aggregate comply with the gradation requirements provided in the following table:

Sand Texture Specifications

	Percent Passing by Weight	
Sieve Size ASTM D422	**Minimum**	**Maximum**
3 /8 inch	100	100
No. 4	90	100
No. 8	70	100
No. 16	40	95
No. 30	15	70
No. 40	5	55
No. 110	0	15
No. 200	0	5

BUREAU OF ENGINEERING
OFFICIAL RECORD

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LAST REVISION DATE: 8/24/2021 2:17 PM
SHEET ISSUE DATE: 8/24/2021

REVISION DATES (DESIGN STAGE ONLY)

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LIC. NO.: 3940

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT: JANE ADRIAN — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — DATE: 04/21/2021
DRAWN BY: GREG MOESER — DATE: 04/21/2021
CHECKED BY: RICHARD FISHER — DATE: 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — DATE: 08/05/2021

JANE ADRIAN — LANDSCAPE ARCHITECT — No. 3940 — 10-31-21 — Renewal — 04-05-21 — State of California

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES
SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L004
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3. Compost shall be a well decomposed, stable, weed free organic matter source derived from waste materials including yard debris, wood wastes, or other organic materials not including manure or biosolids meeting standards developed by the US Composting Council (USCC). Compost quality should be verified via a lab analysis to be:

   - Feedstock materials shall be specified and include one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
   - Organic matter: 35-75% dry weight basis.
   - Carbon and Nitrogen Ratio: 15:1 < C:N < 25:1
   - Maturity/Stability: shall have dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120 F) upon delivery or rewetting is not acceptable.
   - Toxicity: any one of the following measures is sufficient to indicate non-toxicity:
   - NH4:NH3 < 3
   - Ammonium < 500 ppm, dry weight basis
   - Nutrient content:
   - Total Nitrogen content 0.9% or above preferred
   - Total Boron should be <80 ppm, soluble boron < 2.5 ppm
   - Salinity: < 6.0 mmhos/cm
   - pH between 6.5 and 8
   - Compost for biofiltration should be analyzed by an accredited lab using #200, ¼ inch, ½ inch, and 1 inch sieves (ASTM D 422) and meet the gradation described in the following table:

Compost Texture Specifications

	Percent Passing by Weight	
Sieve Size	**Minimum**	**Maximum**
1 inch	99	100
½ inch	90	100
¼ inch	40	90
#200	2	10

B. Stone: As indicated in the Contract Drawings.

C. Impermeable Liner: 30 mil PVC liner by AccuGeo or approved equal.

1. Impermeable plastic liner shall conform to Section 210-2 – PLASTIC LINER (Subsections 210-2.1 to 210-2.3.6) of SSPWC.

D. Subsurface Drain Fabric: Non-woven geotextile filter fabric:

1. TenCate Geosynthetics Americas, Mirafi 140N.
2. US Fabrics, Inc., 120NW.
3. Propex Fabrics, Inc., Geotex 451.

PART THREE - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completions of the Work. Do not proceed until detrimental conditions are corrected as directed by the ENGINEER or BCA Inspector.

3.2 EXCAVATING AND TRENCHING

A. General: Conform to the requirements as specified on the drawings, Los Angeles City Plumbing Code, SSPWC and Section 3 - EARTHWORK.

B. Provide excavation and trenches for storm drain piping systems, concrete catch basins indicated on the Contract Drawings in accordance with applicable requirements specified in Section 3 - EARTHWORK.

3.3 STORM DRAIN SYSTEM CONSTRUCTION

A. General: In strict accordance with pipe manufacturers recommendations and the Los Angeles City Plumbing Code and the SSPWC.

B. Installation of Catch Basins The specified PVC catch basins shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame as referenced on the plans and indicated by the manufacturer. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

C. Installation of Pipe: In accordance with Sec. 306-1.2 INSTALLATION OF PIPE of the SSPWC on unyielding bedding foundations with uniform bearing under full length of pipe barrels; walking on or disturbing pipe in any manner after joints have been made, is not permitted. Whenever work is stopped for any reason, protect ends of pipe with temporary tight-fitting closures. Slope pipe per Contract Drawings.

1. Pipe Bedding: Bedding shall be in accordance with ASTM D2321 and ADS recommended installation guidelines (ADS Drainage Handbook).
2. Backfill: Provide backfill and compact per applicable requirements specified in Section 3 - EARTHWORK, Approved Soils Report, ASTM D2321 and ADS recommended installation guidelines (ADS Drainage Handbook).
3. Field Pipe and Joint Performance: To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.
4. Installation: Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines (ADS Drainage Handbook).

D. Impermeable Plastic Liner: Field weld all joints in accordance with the manufacturer's instructions. Adhesive, chemical fusion, and thermal fusion welding are all acceptable.

1. Liners shall be placed in the trench in accordance with the plans/details. The liner shall be placed loosely and seated firmly into the corners. All seams shall be made in accordance with the manufacturer's instructions. If possible, seams shall not be located at low points in the subgrade unless the geometry requires seaming to be done at these locations. Damaged liner material shall be repaired at Contractor's expense by placing new material that meets overlap requirements over the damaged area. The liner shall be covered as soon as possible after being placed, but not later than 7 calendar days after placement. Material left uncovered for more than 7 calendar days shall be removed and rejected.

2. Trench sides and bottom shall be excavated to provide a smooth surface, free of obstructions and debris. After placement of granular fill and biofiltration soil, two edges of the liner protruding at the top of the trench shall be anchored to prevent movement per the manufacturer's instructions. Excess material shall be trimmed neatly.

3. Provide pipe penetration sealing system. Penetrations shall be sealed using the same geomembrane material, flat stock and accessories. The field-fabricated assembly shall be field-welded to the main liner as to prevent leakage. These field welds shall be in accordance with the manufacturer's instructions. All sealed areas shall be tested using ASTM D-4437 and verified to be leak-free.

E. Placement and Compaction of the Biofiltration Soil: shall be placed and graded using low ground-contact pressure equipment or by excavators and/or backhoes operating on the ground adjacent to the biofiltration facility. No heavy equipment shall be used within the perimeter of the biofiltration facility before, during, or after the placement of soil. The Biofiltration soil shall be compacted by saturating the entire area of the biofiltration facility after each lift of soil is placed until water flows from the underdrain. Water for saturation shall be applied by spraying or sprinkling. Saturation of each lift shall be performed in the presence of the Inspector. An appropriate sediment control device shall be used to treat any sediment-laden water discharged from the underdrain. If the Biofiltration soil becomes contaminated during the construction of the facility, the contaminated material shall be removed and replaced with uncontaminated material at no additional cost to the City. Final grading of the soil shall be performed after a 24-hour settling period.

3.4 CLOSEOUT SUBMITTALS

Project Record Documents: Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.

9. SANITARY SEWAGE SYSTEM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Site sanitary sewer systems from the building to the existing site sanitary sewer.

B. Also refer to Section 3 - EARTHWORK for excavation and backfill required for sanitary sewage systems; and to applicable portions of Section 306 of the SSPWC.

1.2 RELATED WORK

A. Drawings and general provisions of Contract, including General and Supplementary Provisions and Division-1 General Requirement Specification sections, apply to work of this section.

1.3 SUBMITTALS:

A. Product Data: Submit manufacturer's technical product data and installation instructions for sewage system materials and products.

B. Shop Drawings: Submit site plan denoting locations of lines, clean-outs, and appurtenances.

1.4 QUALITY ASSURANCE:

A. Codes and Standards:
1. Plumbing Code Compliance: comply with applicable portions of California Plumbing Code, CPC, current edition, pertaining to selection and installation of sanitary sewage system materials and products, together with SSPWC, Los Angeles Municipal Code and other applicable codes.
2. Codes and Regulations: CONTRACTOR shall obtain, comply with and pay for all required permits. Deliver all permits and submit certifications of compliance to the BCA Inspector and the PROJECT MANAGER.

PART 2 PRODUCTS

2.1 PIPES AND PIPE FITTINGS:

A. General: Provide pipe of the following material, of weight/class indicated. Provide pipe fittings and accessories of same material and weight/class as pipes, with joining method as indicated.
B. Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 plastic drainpipe and fittings meeting the requirements of ASTM D2661 and D3311. Provide ABS solvent cement for piping and joint connections and install in accordance with IAMPO Standards IS 5, 9, and UPC Section 718.
C. Couplings: Rubber or elastomeric sleeve and stainless-steel band assembly fabricated to match outside diameters of pipes to be joined.
D. Vitrified Clay Pipe (VCP): size per Contract Drawings. As per Section 207 - Pipe and Section 208 - Pipe Joint Types and Materials of the SSPWC. Meeting the requirements of ASTM C12, ASTM C301, ASTM C425, and ASTM C700.

2.2 CLEANOUT ASSEMBLIES:

A. General: Provide as indicated, pipe extension to grade as shown on the plans together with cleanout plug.

1. Yard Boxes: EJCO, or equal, with cast-iron locking cover with the word "SEWER," embossed on the cover in one-inch high upper-case lettering.
2. Raised threaded head brass plug. WADE 8590A, SMITH, ZURN, JOSAM, or equal.

PART 3 EXECUTION

3.1 INSTALLATION OF PIPE AND PIPE FITTINGS:

A. General: Install piping in accordance with Section 306 "Underground Conduit Construction" of the SSPWC, except where more stringent requirements are indicated by the governing authorities.

1. Install sanitary sewers in a uniform alignment and slope to the point of connection as indicated. Before trench excavation, verify size, material, depth, and location of the point of connection.
1. Lay piping beginning at low point of system, true to grades and alignment indicated, with unbroken continuity of invert. Verify the invert elevation at all points of connection and report any discrepancies in accordance with Section 306-1.2.2 of the SSPWC.
1. Join pipes and fittings as recommended by the manufacturer.

B. Interior Inspection: Inspect piping to determine whether line displacement or other damage has occurred.

1. Make inspections after lines between manholes, or manhole locations, have been installed and approximately 2' of backfill is in place, and again at completion of project.

2. If inspection indicates poor alignment, debris, displaced pipe, infiltration, or other defects, correct such defects, and reinspect at no cost to CITY.

3.2 CLEARANCE OF SANITARY SEWERS

A. Buildings or Structures: Two feet.

B. Parallel to Water Line:

1. Building sanitary drain is not permitted to be installed in a common trench with a potable water line unless the bottom of the water line is at least 12-inches above the top of the sanitary sewer.

2. In addition, the potable water line shall be installed on a solid shelf excavated on one side of the common trench with a minimum clear horizontal distance of 12- inches from the sanitary sewer or building sanitary drain.

3. Project site sanitary sewer, receiving more than one building sanitary drain or acid pipeline, shall be separated from a potable water line in accordance with the requirements of the California, Health and Human Services Agency, Department of Public Health.

C. Crossing Water Line:
1. Building sanitary drain shall be installed a minimum of 12-inches below the potable water line.
2. Project site sanitary sewer shall be separated from the potable water main in accordance with the requirements of the State of California Administrative Code, Title 22, Section 64630(e)(2).

3.3 CLEANOUTS

A. Provide cleanout as provided per plans, the upper terminal for each sanitary pipeline, at intervals not exceeding 100 feet in straight run and any fraction thereof and for each aggregate horizontal change in direction exceeding 135 degrees.

B. Install required cleanouts before back filling of horizontal pipelines.

C. In unpaved and asphalt-paved areas, install cleanouts in yard boxes 2 inches below the yard box cover.

D. In concrete-paved areas, extend cleanouts flush with finish grade.

E. In traffic areas, install countersunk cleanout plugs where raised heads protrude.

3.4 TAP CONNECTIONS:

A. Make connections to existing piping and underground structures, so that finished work will conform as nearly as practicable to section 306-6, 207-8 of the SSPWC and Standard detail S-110-0.

B. Use commercially manufactured wyes for branch connections. Field cutting into piping will not be permitted. Spring wyes into existing line and encase entire wye, plus 6" overlap, with not less than 6" of 3,000 psi 28-day compressive strength concrete.

C. Branch connections made from side into existing 4" to 21" piping shall have wye sprung into existing line, and entire wye encased with not less than 6" of 3,000 psi 28-day compressive strength concrete.

1. Provide concrete which will attain minimum 28-day compressive strength of 3,000 psi, unless otherwise indicated.

2. Use epoxy bonding compound as interface between new and existing concrete and piping materials.

D. Take care while making tap connections to prevent concrete or debris from entering existing piping or structure. Remove debris, concrete, or other extraneous material which may accumulate.

3.3 BACKFILLING:

A. General: Conduct backfilling operations of open-cut trenches closely following laying, jointing, and bedding of pipe, and after initial inspection and testing are completed in accordance with Approved Soils Report and Section 306-1.3 of the SSPWC.

1. To minimize local area traffic interruptions, allow no more than 100' between pipe laying and point of complete backfilling.

2. Mechanically compact backfill in accordance with the geotechnical report and pursuant to Section 306.1.3.2 of the SSPWC. No jetting is allowed.

3.4 FIELD QUALITY CONTROL:

Testing: After installation, test each sanitary drain and/or sewer and each section between successive manholes for either infiltration or exfiltration. Test shall be conducted in accordance with Section 306 - Underground Conduit Construction of the SSPWC.

3.5 TRENCH RESURFACING:

Where existing improvements have been removed or damaged during construction, the contractor shall replace the improvement in kind to the satisfaction of the CITY. All removals shall be sawcut. Permanent resurfacing shall conform to section 306-1.5.2 of the SSPWC.

10. STABILIZED DECOMPOSED GRANITE PAVING

PART 1: GENERAL

1.1 SECTION INCLUDES

A. This section includes the supply and installation of stabilized crushed aggregate paving, otherwise referred to as stabilized "Decomposed Granite" or "D.G." paving, as indicated in the Contract Documents, including:

1. Base course
2. Crushed aggregate paving
3. Organic binder for crushed aggregate

BUREAU OF ENGINEERING OFFICIAL RECORD

1.2 SUBMITTALS

A. Submit following in accordance with material submittal procedures:

1. Manufacturer's product data sheet, including stabilizer material.
2. Physical sample of stabilized crushed aggregate paving (1-quart minimum).
3. Stabilized crushed aggregate gradation indicating that the product meets specifications.

1.3 MOCK-UP

A. Install 20 square feet minimum of stabilized crushed aggregate paving including base course, at location approved by ENGINEER.

B. Mock-up shall be reviewed and approved by ENGINEER before proceeding with completion of stabilized crushed aggregate paving.

C. Approved mock-up may remain as part of completed Work, subject to approval by ENGINEER.

1.4 DELIVERY AND HANDLING

A. Material shall be delivered to the site pre-mixed and pre-wetted by Gail Materials. Protect stabilized crushed aggregate mix from contamination.

1.5 SEQUENCING

A. Do not install work specified in this section prior to approval of sub-grade preparation per Section 1 - EARTHWORK.

B. Do not install stabilized crushed aggregate surfacing when base material is wet or saturated to field capacity.

C. CONTRACTOR shall coordinate work specified in this Section with work specified in other Sections to minimize disturbance of, and operation of heavy equipment over, installed stabilized crushed aggregate paving.

PART 2: PRODUCTS

1.1 MATERIALS

1. Crushed aggregate material:

   Crushed aggregate material shall consist of sound, angular, durable particles.

   Material gradation shall be in accordance with ASTM C136 as listed below:

Sieve	sieve size (mm)	percent passing by weight
# 1/2"	12.7	100%
# 3/8"	9.51	90-100%
# 4	4.76	50-100%
# 30	0.595	25-55%
# 100	0.149	10-25%
# 200	0.074	5-18%

   Aggregate color shall be "gold" per approved submittal from Gail Materials, (951) 667-6106, wwwgailmaterials.net, or approved equal.

2. Organic binder: Shall be Organic-Lock™ self-healing organic binder by Gail Materials, Corona, CA 92883; (951) 667-6106; www.gailmaterials.net. Mix rate of organic-lock™ binder and shall be determined by Gail Materials subject to selected material as well as the intended application.
3. Crushed Aggregate Material with Organic-Lock™ binder shall be pre-wetted using a pug mill by the supplier immediately prior to delivery to the jobsite.

PART 3: EXECUTION

3.1 PREPARATION OF SUBGRADE

1. Examine grading and subsoil conditions. Do not proceed until conditions are acceptable.
2. Excavate to depth required so that resulting finished grade is per Contract Drawings.
3. Prepare sub-grade per Section 1 – EARTHWORK.

3.2 BASE COURSE

Place base course material over subgrade to depths and dimensions shown on drawings in maximum (6") lifts compacted to 95% modified proctor density.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPEDESIGN\WORKING_DRAWINGS\XREFS\SHELDON_ARLETA_TTLB_BLOCK.DWG
SHEET ISSUE DATE: 8/24/2021 2:17 PM
LAST REVISION DATE: 08/05/2021

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

DEPARTMENT OF PUBLIC WORKS

CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION

LANDSCAPE ARCHITECT: JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — 04/21/2021
DRAWN BY: GREG MOESER — 04/21/2021
CHECKED BY: RICHARD FISHER — 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — 08/05/2021

LANDSCAPE ARCHITECT
JANE M. ADRIAN
No. 3940
Renewal 10-31-21
Date 04-05-21
STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTR CTION NOTES
SHEET 5

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L005
SHEET 12 OF SHEETS 74

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3.3 PRE-BLENDED ORGANIC-LOCK™ AGGREGATE SURFACING

A. Install organic-lock™ aggregate paving to the compacted depth as specified.

B. Pre-wetted Organic-Lock aggregate paving shall be installed in one lift for applications of 4" depth or less. For areas of compacted depths of 6-inches or greater shall be installed in 3-inch compacted lifts.

C. Depending on weather conditions, the time required to allow the material to set-up before it can be compacted varies. Generally, this time period is between 6 and 48 hours. The top layer should be firm and not sticky. Compaction can begin when you can walk on the material without significantly sinking in and material does not feel muddy. If material sticks to the roller during compaction, allow the material to further dry. Do not allow the material to completely dry out.

D. Make 4-6 passes using a double or single static drum roller, or equivalent. *Do not use a vibratory compactor or vibratory setting on the compactor.* The CONTRACTOR shall select and provide the proper size roller for the application.

E. After final compaction, the surface shall be true to elevation and shall not vary by more than one-quarter inch (1/4") tested with a straight edge at any location on the surfaces. Surfaces can either be crowed at a minimum of 2% and/or installed with a cross slope of minimum 1%.

3.4 ADJUST AND CLEAN

All paved areas or adjacent surface shall be brushed clean and excess materials shall be removed from the work site and disposed of in an approved dump location.

3.5 PROTECTION OF WORK

A. Do not allow traffic on stabilized crushed aggregate paving after placement until compacted stabilized crushed aggregate paving has fully cured. This time may vary depending on weather conditions.

B. CONTRACTOR shall protect stabilized crushed aggregate paving surface from damage until project completion. Repair damaged areas to match specified requirements.

3.6 REPAIR

To repair, excavate damaged area to a depth of 2" minimum, and scarify exposed stabilized crushed aggregate paving. Apply replacement material to the excavated area and compact. Thoroughly water the material and allow the material to cure, but not completely dry out. Re-compact the material, ensuring that the final grade and crown are maintained. Do not use a vibratory compactor.

11. BASEBALL INFIELD SURFACE

1.1 SECTION INCLUDES

A. This section includes the supply and installation of baseball infield surface mix, as indicated in the Contract Documents.

1.2 SUBMITTALS

A. Submit following in accordance with material submittal procedures:

1. Manufacturer's product data sheet.

2. Physical sample of infield surface material (1-quart minimum).

1.3 MOCK-UP

A. Install 20 square feet minimum of stabilized crushed aggregate paving including base course, at location approved by ENGINEER.

B. ENGINEER shall view and approve mock-up before proceeding with rest of stabilized crushed aggregate paving.

C. Approved mock-up may remain as part of completed Work, subject to approval by ENGINEER.

1.4 DELIVERY AND HANDLING

Material shall be delivered to the site pre-mixed by supplier. Protect stabilized crushed aggregate mix from contamination.

1.5 SEQUENCING

Do not install work specified in this section prior to approval of sub-grade preparation by BCA Inspector.

PART 2: PRODUCTS

2.1 MATERIALS

Infield Mix: The top 4 inches of the infield surface shall be "Pro-Gold" *Softball* mix as distributed by Gail Materials (951) 667-6106 or an approved equal.

PART 3: EXECUTION

3.1 METHODS

A. The stabilized infield mix shall be premixed by the distributor before delivery to the site. The subgrade will be prepared in accordance with the geotechnical report as noted for paving.

3.2 PLACEMENT

A. After pre-blending, place the stabilized infield mix on prepared sub-grade compacted to 90% relative compaction. Level to desired grade and cross section of 4" minimum depth. A 10' by 10' area centered over each future base pad location shall be six (6) inches deep in lieu of the standard four (4) inches depth for the rest of the infield. Grade infield area so that all areas achieve a .5% minimum slope, and no depressions are created that can retain water.

3.3 WATERING

A. Water heavily to achieve full depth moisture penetration of the entire stabilized infield mix profile. Stabilizer is water-activated: to achieve adequate saturation of stabilized infield mix profile, a minimum of 25 to 45 gallons of water per ton must be applied. During water application randomly test for penetration depth using a probing device until the entire profile is adequately wetted.

B. Do not begin compaction for minimum of 6 hours after wetting. Compaction must be completed within 24 hours of wetting.

3.4 COMPACTION

A. Upon thorough moisture penetration, compact aggregate screenings to 85% relative compaction with a min. 1,000 lb. Static drum roller. *Do not use a vibratory compactor or vibratory setting on the drum roller.*

B. Take care in compacting stabilized infield mix when adjacent to planting and irrigation systems. Hand tamping with 8" or 10" hand tamp is recommended in areas where large equipment could damage irrigation or hardscape.

3.5 INSPECTION

A. The finished surface of stabilized infield mix shall be smooth, uniform and solid. There shall be no evidence of chipping or cracking. Cured and compacted infield shall be firm throughout profile with no spongy areas. Loose material shall not be present on the surface. Any significant irregularities in the surface shall be repaired to the uniformity of entire installation.

12. CHAIN LINK FENCING AND GATES

PART ONE - GENERAL

1.1 SUMMARY

All permanent chain link fencing, gates and related hardware as indicated on the Contract Drawings, or as specified herein and as needed for complete and proper installation.

1.2 QUALITY ASSURANCE

Quality of All Materials and Accessories: As recommended by the manufacturer, subject to the acceptance by the ENGINEER. All materials and accessories shall conform with the requirements of the SSPWC and specified herein.

1.3 SUBMITTALS

A. CONTRACTOR shall provide Shop drawings in sufficient detail to show layout of fence and gate, elevation details, fabrication, assembly, hardware, installation, anchorages and interface of work of this Section with work of adjacent trades.

B. Manufacturer's certification of compliance for chain link fabric posts and rails.

1.4 PRODUCT HANDLING

A. Protection: Protect fencing fabric, posts and gate assemblies before, during and after installation. Properly package and identify and note location of unassembled items (hardware, etc.) for protection against damage.

B. Delivery: Deliver all items to be built into concrete or masonry work in time, so as not to delay construction and installation operations.

C. Storage: Store all fencing and gate assemblies where approved by the PROJECT MANAGER until time for installation.

PART TWO - PRODUCTS AND FABRICATION

2.1 MATERIALS

A. General: All materials for fencing, posts and gates and fasteners to be new and hot-dipped galvanized.

B. Galvanizing: Comply with requirements of Section 210-3 - Galvanizing of SSPWC, except as modified herein.

C. Fabric: As per ASTM A392 - Specification For Zinc Coated Steel Chain Link Fence Fabric and A817 - Specification For Metallic - Coat Steel Wire for Chain Link Fence Fabric, 2-inch mesh chain link of 9-gage steel wire (minimum 75,000 psi tensile strength) galvanized 1.2 oz/ft^2 zinc in single fabric width for entire height and with top and bottom selvedges twisted and barbed.

D. Fabric Tie: 11 gage galvanized steel used to fasten the fabric to posts, rails and gate frame.

E. Posts: Class 1 Schedule 40 Standard weight pipe conforming to ASTM F-1083 - Specification for Pipe, Steel, Hot-Dipped Zinc - Coated (Galvanized) Welded, For Fence Structures.

1. Line Posts: 2-3/8-inch O.D. unless otherwise noted, complete with malleable iron eye-top of suitable design to provide moisture-proof cap.

2. End and/or Corner Posts: 2-7/8-inch O.D. unless otherwise noted, with malleable iron moisture-proof cap.

3. Gate Posts: 4-inch O.D. complete with malleable iron moisture-proof cap.

F. Top and Bottom Rails: 1-5/8-inch O.D. standard weight steel pipe complete with end caps and end clamps for attachment to posts.

G. Horizontal and Diagonal Bracing:

1. Horizontal Rails with Diagonal Bracing: Intermediate horizontal rail, 1-5/8-inch O.D. standard weight steel pipe complete with end caps and clamps for attachment to posts.

1. Diagonal: 3/8-inch diameter steel truss rods complete with turn buckles and attachments to post.

H. Tension Wire: for fabric of 9-gage and heavier use 6-gage galvanized coiled spring steel wire.

I. Galvanizing Repair Material: Galvanized surfaces which have been damaged in transport or during installation shall be re-coated using the metalizing process or zinc oxide, zinc dust paint per Section 210-3.5 of the SSPWC.

J. Galvanized Steel Brace Bands, Tension Bands or Bars and Tension Rods: Brace bands shall be galvanized, minimum of 3/16 inch x 3/4-inch wide; tension bands or bars shall be 3/16 inch x 3/4-inch wide and tension rods shall be 3/8 inch diameter galvanized steel rod with galvanized turnbuckles or other suitable tightener or tightening devices.

13. PAINTING

BUREAU OF ENGINEERING
OFFICIAL RECORD

PART ONE - GENERAL

1.1 SUMMARY

A. Furnish all tools, equipment, materials, supplies and perform all labor required to paint the work indicated or noted on the Contract Drawings and hereinafter specified.

B. "Paint" as herein specified, means coating systems, materials including primers, emulsions, epoxies, enamels, sealers, fillers and other liquid materials which, when spread in a thin layer, solidifies into a film that obscures the surface on which it is applied. These materials can be used for surface preparation and as prime, intermediate or finish coats. The painting application shall also include all necessary operations including proper surface cleaning and preparation, protection of non-painted surfaces, and proper clean-up during and after painting. Other painting work may be included or specified in other parts of the Specifications or Contract Documents.

C. Work Not To Be Primed Or Painted Unless Specified Otherwise:

1. Portions of steel members embedded in concrete or mortar.

1.2 QUALITY ASSURANCE

A. Paint Applicator: Use adequate number of skilled employees who are thoroughly trained and experienced in the necessary crafts and completely familiar with the specified work, all applicable codes, regulation and safety requirements and methods needed for proper execution of work of this Section.

B. References, Standards, Codes and Regulations:

1. Work, equipment and materials must conform to following, but not necessarily limited to, References, Standards, Federal, State and local laws and regulations including the Los Angeles City Building Code and applicable Amendments. Current manufacturer's materials safety data sheets for all materials must be on the jobsite at all times.

2. Where those requirements conflict with this Section, comply with the more stringent provision.

a. All material formulation and their application shall comply with the current applicable regulations of the State of California Department of Public Health, California Air Resources Board (CARB), Southern Calif Air Quality Management District (SCAQMD), and the Environmental Protection Agency (EPA) for the airborne or solvent emissions and industrial waste disposal. All paint containers to be properly labeled. Provide the City Engineer with "Certificate of Compliance" if requested.

b. Comply with requirements of OSHA, Safety and Health Standards for Construction (29CFR1926) requirements specified in this Section and elsewhere in the Project Manual. Protect all workers of other trades, occupants, or passersby from any airborne or solvent emission.

c. Regulatory changes may affect the formulation, availability, or use of specified coatings. Confirm availability of the specified paint materials and other coatings to be used or available under the emission averaging provision or other exemption rules prior to job going out to bid and before start of painting work.

d. Los Angeles Department of Building and Safety (LADBS) Research Report.

e. Standard Specifications for Public Works Construction (SSPWC).

f. American Society of Testing and Materials (ASTM).

C. Shop Inspection: Required for all items to be fabricated, shop-primed or shop-applied finish offsite; or as required by Bureau of Contract Administration, Materials Control Division.

1.3 SUBMITTALS

A. General: Comply with applicable provisions Section 10 of the General Requirements of the Project Manual. Contractor shall coordinate with other trades and obtain information required for the Submittal. City Engineer will return and will not review any submittal requiring coordination with other submittals until such other submittals or required information are received by the City Engineer.

B. Product Data and Shop Drawings:

1. Submit manufacturer's printed product data and material specifications needed to prove compliance with the specified requirements. The Contractor must identify on a separate submittal of all material manufactured outside the State of California.

2. Submit materials list of all items proposed to be provided under this Section including all cleaning agents and materials for surface preparation; Paint Finish and Color Schedules including respective locations and thicknesses, application rates and amounts of required stock material. All items must be provided with catalog names and numbers of the paint types. Paint Finish Schedules shall also identify works to be factory-primed and to be re-primed in the field. Identify materials that are available under the emission averaging provisions or other exemption rules, and also materials to be applied in the manufacturing plant by using an air pollution control system to reduce the VOC emissions. Provide painting locations, which will receive waterproofing sealer treatment, anti-graffiti and other protective coatings.

3. Submit Manufacturer's recommended methods of surface testing (including the alkalinity test), surface preparation and cleaning for painting works to be provided under this Section and their prospective locations.

4. Submit list of equipment, operation procedures and pressures proposed to be used under this Section. Coordinate and submit all protection plans or safety controls against any airborne emission or exposure during the demolition, surface preparation and painting works.

5. Submit methods of testing of total film thickness.

6. Submit manufacturer and Coating Inspector prepared certifications of substrate materials as suitable to receive sealers or primers and paints.

C. Samples:

1. Color Samples: Required for each type of paint material and color, four 8 1/2-inch x 11-inch swatches, to be submitted to the City Engineer or the Consultant for approval not less than 30 days prior to start of painting.

2. Revise and resubmit each sample as requested by the City Engineer or the Consultant until approval is achieved. Approved samples will become standards of color and finish for accepting or rejecting the work of this Section.

3. Actual painting or other finish coating shall not commence until samples and mock-ups are approved and are on file at the jobsite.

1.4 PRODUCT HANDLING

A. Delivery: Deliver materials to the jobsite in factory sealed and properly labeled containers bearing manufacturer's name, type of paint and instructions for mixing and/or reducing.

B. Storage: Store paint materials in suitable dry, clean and well-ventilated locations. Precautions shall be taken for the prevention of fire. Do not store outdoors or deliver paint material to site more than 15 days before the painting work.

C. Inspection: Required for approval before containers are opened. Non-approved materials shall be removed from the jobsite.

D. Protection: Required of all paint materials from exposure to weather or from damage as caused by other construction operations. Protect all surfaces not to be painted. Mask-off where necessary and the over spray is prohibited.

E. Factory-primed, factory-applied or factory baked-on enamel finished metal or equipment shall be protected during shipment and handling by suitable padding, blocking and the use of canvas or dunnage. Do not expose any metal or equipment to weather prior to painting or installation.

1.5 JOB CONDITIONS

A. Do not apply paint material when surface temperatures and the surrounding air temperatures are below 50 degrees F. Do not apply paint material on damp or wet surfaces, unless otherwise permitted by the manufacturer's printed instructions as approved by the City Engineer.

B. Perform no painting when the relative humidity is above 85 percent or when the dew point is less than 5 degrees F variance between the air/surface temperature.

C. Do not apply materials during fog, rain or mist or when inclement weather is expected within a period of 24 hours, or the dry time specified by the manufacturer following a rainfall.

1.6 EXTRA STOCK (MAINTENANCE MATERIALS)

A. Required:

1. Provide one full gallon of sealed and properly labeled container of each paint color and type of paint used in the project for maintenance use.

2. The stock material shall have at least one-year shelf life at the time of the delivery.

B. Delivery: Upon completion of work of this Section, deliver the required paint maintenance materials and store on the jobsite or at an offsite location at no additional cost to the City where directed by the City Engineer as a condition precedent to the City's acceptance of the work of this Section.

1.7 SAFETY REQUIREMENTS

A. Comply with all safety and health requirements of the "Federal Labor Standards" and in applicable Section in the GENERAL CONDITIONS of Project Manual. It is the responsibility of the Contractor to establish appropriate safety and health practices.

B. Paints, stains, wood preservative finishes and related materials may be considered as hazardous and shall be handled and disposed of in accordance with code requirements.

1.8 GUARANTEE

A. The Contractor shall conform to provision of the General Requirements and furnish the City with written guarantee, during the submittal process and at completion of the work, which guarantees for a period of 1 year from the date of acceptance of the project against any defect, peeling, chipping or crack and that Contractor will without additional cost to the City, promptly make any repairs required as a result of defect or ordinary wear and tear.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

I:\LBS 1\EMPLATES\VERSION DATE: 12/2/2013
SHEET ISSUE DATE: 8/24/2021 2:17 PM
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REVISION DATES
(DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

LANDSCAPE ARCHITECT
JANE ADRIAN
No. 3940
Registration Expires
10-31-21
Addendum No. 3
04-05-21
Date

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES SHEET 6
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L006
SHEET 13 OF SHEETS 74

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PART TWO - PRODUCTS

2.1 MATERIALS

A. General: All painting products shall be as specified or approved equal. Only the approved products shall be used in this project.

1. Paint pigments shall be fully ground, maintaining soft paste consistency, capable of being readily and uniformly dispersed to complete homogeneous mixture. Paints shall have good flowing and brushing properties and be capable of drying or curing free of streaks and sags. Provide paints with the colors specified on Contract Documents.

2. All paint products shall be in compliance with the Volatile Organic Compound (VOC) limits specified in the rules and regulations of the local governing agencies including the South Coast Air Quality Management District (SCAQMD).

3. All field applied paint products shall meet or not to exceed the applicable VOC Limits of SCAQMD's Rule 1113 – ARCHITECTURAL COATINGS of the Regulation No. XI – SOURCE SPECIFIC STANDARDS, latest edition.

B. Manufacturers:

1. Paint systems, catalog names, and product numbers listed below are based on products of Dunn-Edwards Corporation. This shall be considered the standard of quality against which the Project Manager will judge equivalency. Contractor's material submittal for proposed alternates must include complete material specifications from manufacturer. Paint systems described below are for specific surfaces as indicated. In addition to the information provided herein, paint materials shall also be governed by the requirements set forth in section 210-1 of the SSPWC.

Ferrous Metal Tubular Shapes (Non-Galvanized), Semi-Gloss

Painting Sequence	Finishing Schedule	Recoat And Drying Time	Coverage At Required Wet Film Thick-ness	Required Wet Film/Dry Film Thickness
1st coat: Synthetic alkyd white corrosion inhibiting primer	Corrobar (43-5)	Min. 24 hrs. Max. 72 hrs.	450 square feet per gallon	3.5 wet mils; 2.0 dry mils
2nd coat: Semi-gloss enamel acrylic latex exteri-or enamel	Permasheen (W 901)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	4.2 wet mils; 1.5 dry mils
3rd coat: Semi-gloss enamel acrylic latex exteri-or enamel	Permasheen (W 901)	Dry to touch: 30 min.	375 square feet per gallon	4.2 wet mils; 1.5 dry mils

Non-ferrous metals (Galvanized steel, Aluminum), Semi-Gloss

Painting Sequence	Finishing Schedule	Recoat And Drying Time	Coverage At Required Wet Film Thick-ness	Required Wet Film/Dry Film Thickness
Pre-coat: galva-nized steel only. Acid etch*	Galva-etch (GE 123)	n/a	n/a	n/a
1st coat: Alkyd primer	Galv-Alum (QD 43-7)	Dry to touch: 30 min.; recoat: 2 hrs. † Max. 48 hrs.	350 square feet per gallon	4.6 wet mils; 2.0 dry mils
2nd coat: Syn-thetic alkyd white corrosion inhibiting primer	Permasheen (W 901)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	3.5 wet mils; 2.0 dry mils
3rd coat: Semi-gloss enamel acrylic latex exte-rior enamel	Permasheen (W 901)	Dry to touch: 30 min.	375 square feet per gallon	4.2 wet mils; 1.5 dry mils

*Galva-etch is a water reducible acid pre-treatment for galvanized metals. Do not use on aluminum.

† Recoat time for Galv-Alum is 2 hours if material is sprayed, 16 hours if brushed or rolled. Second coat must be applied within 48 hours

Primers, Sealer, and Undercoats

Painting Sequence	Finishing Schedule	Recoat And Drying Time	Coverage At Re-quired Wet Film Thickness	Required Wet Film/Dry Film Thickness
Alkyd based	Block-it (QD 42-56) Quick-dry pigmented primer/seal-er	Dry to touch: 30 min.; Recoat: 1 hr.	435 square feet per gallon	3.7 wet mils; 1.5 dry mils

C. Miscellaneous Materials: Provide cleaning agents, neutralizer and other materials as may be required for the cleaning and preparation of surfaces to be painted as recommended by the manufacturer and as approved by the City Engineer or the Consultant.

1. Thinner: As recommended by the Paint Manufacturer for tool cleaning. Do not use thinner to thin, mix or prepare paint materials.

2. Cleaner, Degreaser, Neutralizer: Provide as part of Contract any types labeled as suitable and that will not cause any harm or damage to the substrate or texture or any adhesion problem.

3. Graffiti Remover: Use hot and high-pressure water or power wash with approved graffiti remover where required.

2.2 APPLICATION EQUIPMENT

A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer and as approved by the City Engineer or the Consultant.

B. Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that integrity of the finish will not be jeopardized by use of the proposed equipment.

C. Spraying equipment for paint finish shall be airless spraying machine with water trap. Inspect spray tip each day for wear and replace worn tip.

D. Brushes shall have a good quality natural or synthetic bristle. Rollers shall have a good quality natural or synthetic cover. Brush and rollers shall conform with approved manufacturer's recommendation and Section 310-1.2 - APPLICATION of SSPWC.

PART THREE - EXECUTION

3.1 GENERAL

A. Refer also to section 310-1of the SSPWC.

3.2 PROTECTION

A. Contractor shall mask off all adjacent surfaces not to be painted and shall repair or replace damaged area with new work subject to the approval of the City Engineer at no added cost to the City.

B. Furnish sufficient drop cloths, shields and protective equipment to prevent spray or splatter from fouling surfaces not be painted.

C. "WET PAINT" signs, barricades, and such other devices as are required to protect newly finished surfaces shall be provided. Contractor shall be responsible for removal of signs protective materials, and temporary protective wrappings provided by others for protection of their work after completion of painting operations.

3.3 MATERIALS PREPARATION

A. General:

1. Mix and prepare paint materials in strict accordance with procedures submitted and approved by the City Engineer. Mix paint materials in whole unit sizes and do not attempt to mix a partial unit of paint material.

2. When materials are not in use, store in tightly covered containers as supplied.

B. Stirring:

1. Stir materials with mechanical mixers or power agitator before application, producing a mixture of uniform density.

2. Do not stir into the material any film which may form on the surface; remove the film and, if necessary, strain the material before using.

3.5 SURFACE PREPARATION OF PAINT AND SEALER

A. General:

1. Perform surface preparation and cleaning in strict accordance with the procedures approved by the City Engineer in accordance with 310-2. Any use of abrasive blasting, air blasting, water blasting, detergent washing, and scrubbing, acid etch or abrasion with power cleaning tools shall be submitted for approval of the City Engineer in advance.

2. Crevices, joints, seams and connections of exterior hollow metals, pipes, tubes and posts shall be capped, welded, sealed and watertight.

3. Clean and rinse each surface to be painted prior to applying surface treatment or paint as specified herein. All curing agents, bond breaker or form release agents must be removed, and the surface cleaned before any paint system is applied.

4. Remove oil, grease or stabilizers from all metal surfaces with clean cloths and approved cleaning solvent or detergent of low toxicity and flash point in excess of 200 degrees F, prior to start of mechanical cleaning and surface treatment.

5. Provide surface treatments where required. Spot prime repaired surfaces with the primers as specified herein.

6. All surfaces must be completely dry, dust free and protected from corrosion and oxidation before priming and painting. Do not exceed the lapse time recommended between the surface preparation and painting work.

7. Dissimilar Materials: Apply protective coatings as specified herein. The protective coatings shall be not be visible to the public view.

8. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.

9. Contractor shall be responsible for promptly repairing unsatisfactory work due to improper surface conditions.

B. Preparation of Metal Surfaces:

1. For ferrous metals, clean surfaces as recommended by the manufacturer, until free from dirt, mill scale or rust, mildew, oil, grease and other foreign matters and recommended surfaces profiles are obtained.

2. All surfaces of structural steel and their components such as end clips, splice or gusset plates, back-to-back angles, joints and edges that will be inaccessible for finish coats after fabrication or erection shall be completely covered with two coats of primers of different colors prior to installation.

3. On Shop-Primed or Shop-Coated Metal:

a. Maintain prime coat during the delivery, storage and installation. Protect metal from corrosion or oxidation at all time. Remove dust, dirt and other foreign matter.

b. Spot coat field connections, welds, soldered joints and burned and abraded areas with the same material used for shop priming prior to final coat.

3.6 APPLICATION AND WORKMANSHIP OF PAINT SYSTEM

A. General:

1. Unless specified otherwise, all application shall be executed by first class trade painters in accordance with Section 310 – PAINTING of the SSPWC, and the provisions set forth in these specifications, and in accordance with the approved methods by using application equipment and techniques best suited for the substrate and type of material being applied.

2. All metal work to be hand brushed to produce an even film surface. Large surfaces may be rolled.

3. Thoroughly back paint all surfaces of items that will be concealed or inaccessible after installation.

4. Use approved clean-up solvents for tool or equipment cleaning at prescribed intervals during the application process and at the end of the workday.

B. Workmanship:

1. Each coat shall be even, with uniform color and texture.

2. Finish painted surfaces shall be free from sags, brush marks, dirt, cloudy or mottled surfaces, scratches, cracks or other blemishes and thin coating.

3. Mixing of paint materials: Thoroughly stir, strain and keep at a uniform consistency during application in accordance with manufacturer's directions. Do not mix together materials of different manufacturers.

C. Coats:

1. The number of coats and total film thickness specified herein are the minimum that shall be applied to produce the specified workmanship.

2. Apply additional coats when the undercoats or other conditions show through the finish coat, or if required to obtain complete and uniform coverage and approved results.

3. Each coat in full coverage shall be measured for the wet film thickness and obtain the required approvals of the BCA Inspector before each succeeding coat is applied.

4. Undercoats to be dry and hard before application of succeeding coat and to be tinted to approximate color of finish coat.

5. Suitably sand undercoats as necessary for proper finish.

6. Prime and succeeding coats for each finish shall be products of the same manufacturer unless otherwise specified, indicated or authorized by the City Engineer.

7. The total film thickness or application rate or coverage for each paint system shall be submitted for review during the submittal process. The applied total film thickness of each coat shall not be less that the minimum film thickness specified in the materials section of this specification or as recommended by the manufacturer, whichever is greater. If application rate or coverage is specified, each application shall not be greater than the rate or coverage specified herein or recommended by the manufacturer, whichever is lesser.

8. Excessively thick coats of paint will not be permitted.

9. All repaired areas of painted surfaces shall be sealed and painted with total film thickness to match adjacent area to ensure total surface smoothness. Any additional or new finish coat shall be in accordance with the total film thickness or application rate as specified hereinbefore.

D. Colors:

1. As selected by the City Engineer or as noted on the Contract Drawings.

2. Each coat shall provide a proper ground coat for the succeeding coat and not differ appreciably in tint from the preceding coat.

3. Finish coats shall match approved samples.

E. Touch-Up Painting: Shall be required as directed by the City Engineer for all areas or items scratched, marred or defaced in any manner by Contractor's operations, at no added cost to the City.

1. If shop or factory-applied finish on any equipment furnished by the Contractor is damaged in shipment or during construction operations, equipment shall be refinished by the Contractor to the satisfaction of the City Engineer or the Consultant, at no added cost to the City.

2. One can of touch-up paint shall be provided for each different color of factory-applied finish, which is to be the final finish surface of the product.

3.7 PROTECTION AND CLEAN-UP

A. Following completion of painting in each space or area, reinstall the removed items or new works with care by using employees skilled in the necessary trades. Protect all surfaces from dust, damages or human contact prior to final acceptance. For surfaces requiring other succeeding coating or treatment, protect surfaces from dust, dirt or other contamination.

B. At End of Each Day's Work: Return materials and equipment to the storage area. Remove paint or oil-saturated cloths from the job-site daily or hang out flat and singly to dry.

C. Final Clean-Up: Repair all damage to adjacent surfaces or facilities resulting from the work to the satisfaction of the City Engineer at no additional cost to the City. Conform to applicable provisions of REMOVAL, CLEANUP AND DEMOBILIZATION Section in the GENERAL REQUIREMENTS.

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14. IRRIGATION SYSTEMS

PART ONE - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. All labor, materials, equipment, appliances, fixtures and tests necessary for complete new operating irrigation system as indicated on the Contract Drawings.

1.2 SUBMITTALS

A. The CONTRACTOR shall make all required materials submittals in accordance with the GENERAL REQUIREMENTS. For all materials not approved upon the first submittal, CONTRACTOR is responsible to promptly re-submit for approval, necessary data concerning a substitution for a disapproved item or piece of equipment.

B. The CONTRACTOR shall make substitution requests in accordance with the GENERAL REQUIREMENTS.

C. Submit copies of the following:

1. Complete list of irrigation materials and miscellaneous hardware complete with descriptions and/or photographs and manufacturer's literature. Clearly mark or underline proposed items.

1.3 QUALITY ASSURANCE

A. Codes and Regulations: CONTRACTOR shall obtain and pay for all required permits. Deliver all permits and submit certifications of compliance to the BCA Inspector and the PROJECT MANAGER.

1.4 GENERAL REQUIREMENTS

A. Approvals by the Engineer: Before commencement of irrigation installation, CONTRACTOR shall obtain:

1. All approvals on required submittals hereinafter specified.

2. Approval of all re-submittals requested by the ENGINEER.

3. CONTRACTOR shall make a detailed staked layout on the work site of the proposed trenching locations for all mainline, control wire conduit, and valve manifolds for approval by ENGINEER prior to trenching.

4. CONTRACTOR shall make a detailed staked layout on the work site of the proposed head locations for approval by ENGINEER prior to lateral line trenching.

B. Required Inspections: Notify the BCA Inspector at least 72 hours prior to time of required inspection.

1. **IRRIGATION MAINLINE PRESSURE TEST:** The pressure test shall take place under the direction of the BCA Inspector.

2. **IRRIGATION COVERAGE TEST:** After installation of heads and lateral lines etc., entire irrigation system shall be tested for coverage. CONTRACTOR shall notify the BCA Inspector, PROJECT MANAGER, ENGINEER and designated RAP regional maintenance staff three (3) days before the scheduled test.

C. Existing Utilities and Plant Materials: Protect utilities and/or plant materials not designated for removal or modification in place against damage resulting from work of this Contract. Perform any removal and/or modifications only on approval or instruction from the ENGINEER or in accordance with applicable provisions noted or specified.

1. See sheet L100 for Tree Protection Requirements when trenching.

D. Verification of Dimensions and Quantities: Verify site conditions, contract drawings, all dimensions and quantities prior to the bid. Furnish the quantities as necessary to do the specified work. Notify the Project Manager of any discrepancies between the Contract Drawings and the site conditions prior to beginning work. Do not work in areas where such discrepancies occur until further instruction by the ENGINEER.

E. Record Drawings: Comply with provisions of the GENERAL REQUIREMENTS. CONTRACTOR shall accurately dimension the location and depths of all piping, valves, and control equipment as installed. Indicate with suitable colored ink on one set of prints of the Contract Drawings to produce a record of complete installations to be kept on the job and up to date at all times during construction. At the completion of the work and prior to Final Inspection, the CONTRACTOR shall copy his record "as installed" data, using red ink, onto a set of clean prints. The CONTRACTOR shall certify to the completeness and accuracy of the "as installed" information indicated on the prints with his signature and deliver the signed prints to the PROJECT MANAGER for review prior to the completion of the Plant Establishment Period.

1. Dimension from two permanent points of reference, building corners, sidewalk, or road intersections, the location of the following items:

a. Connection to existing water lines.
b. Connection to existing electrical power.
c. Gate valves.
d. Routing of all pressure lines. Indicate dimensional location at 100' intervals.
e. Routing of control wiring.
f. Controller.
g. Other related equipment as included in Contract Drawings.
h. Sleeve locations.

F. Water and Power Services: Upon award of contract, the CONTRACTOR shall contact the Department of Water and Power to arrange and pay for the installation of all required water and electrical meters and services. Service connections shall be as shown on the Contract Drawings or as designated by the utility company. Upon final acceptance of the project, the CONTRACTOR shall transfer billing to the City of Los Angeles, Department of Recreation and Parks as directed by the Project Manager.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
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SHEET ISSUE DATE: 8/24/2021 2:17 PM
REVISION DATES (DESIGN STAGE ONLY)

ENGINEERING
CITY OF LOS ANGELES

DEPARTMENT OF ENGINEERING
BUREAU OF PUBLIC WORKS

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
REGISTERED
No. 3940
10-31-21
STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ARCHITECTURAL DIVISION	LIC. NO.: 3940	DATE: 04/21/2021
LANDSCAPE ARCHITECT : JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES SHEET 7

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L007
SHEET 14 OF SHEETS 74

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G. Guarantee: In accordance with provisions of the GENERAL CONDITIONS, CONTRACTOR shall guarantee the entire irrigation system against defects in materials and workmanship for a period of one year from the date of final acceptance of the Project.

1. The entire irrigation system shall be warranted to be free from defects in materials and workmanship, and installed in accordance with the irrigation plans, specifications and the SSPWC. The CONTRACTOR shall be required to repair or replace any defects in material or workmanship which may develop within one (1) calendar year from the date of acceptance, excepting ordinary wear and tear and unusual abuse or neglect. Further, the CONTRACTOR shall be required to make any necessary repairs within 48 hours of notification at no cost to the CITY. If the CONTRACTOR or his agent fail to make such repairs within the stipulated time, the CITY shall make such repairs or have repairs made by a third party and bill the CONTRACTOR for all expenses that accrue from making such repairs.

2. The CITY reserves the right to make temporary repairs as necessary to keep the irrigation system equipment in operating condition. The exercise of this right by the CITY will not relieve the CONTRACTOR of his responsibilities under the terms of the guarantee.

3. CONTRACTOR shall repair any settlement of backfilled trenches which may occur during a one-year period after final acceptance by the PROJECT MANAGER, to the ENGINEER'S satisfaction, without expense to the CITY, including the complete restoration of all damaged planting, paving, or other improvements of any kind.

1.5 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver products to the jobsite in their manufacturer's original containers, with labels intact and legible.

B. Storage: Store piping, materials, fitting, etc. at the jobsite where directed by the City Engineer until such time for installation.

C. Handling: Promptly remove damaged materials and unsuitable items from the jobsite and promptly replace with materials meeting the specified requirements, at no added cost to the City.

PART TWO - PRODUCTS

2.1 MATERIALS

A. General: Provide recently manufactured materials of the best grade of each respective kind.

B. Pipe and Fittings: The type of pipe material and fittings designated on the Contract Drawings, or as hereinafter specified shall be:

1. Steel Pipe: Galvanized standard weight Schedule 40 steel water pipe complying with ASTM A53 - SPECIFICATION FOR PIPE, STEEL, BLACK AND HOT-DIPPED, ZINCH-COATED, WELDED AND SEAMLESS; jointed with galvanized, threaded, standard weight malleable iron fittings, and/or couplings.

2. Plastic Irrigation Pipe: High impact rigid polyvinyl chloride PVC 1220 (Type I, Grade 2), conforming to ASTM D1785 - SPECIFICATION FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPE, SCHEDULES 40 & 80 and CLASS 200. The minimum pressure rating to be not less than indicated therein for the schedule and size listed.

3. HDPE Heat Welded IPS Pipe: shall be type 4710 SDR 11 IPS butt welded. Provide required fittings and adaptors as indicated in Contract Drawings. All heat welded fittings shall match SDR rating of pipe.

4. Domestic Water Lines For Drinking Fountains: Install water piping in accordance with the latest edition of the Uniform Building Code and all local ordinances. Prior to allowing human consumption of water from newly installed drinking fountains the CONTRACTOR shall perform domestic sterilization procedures as indicated in applicable details and provide testing results to document compliance with the standards indicated. New drinking fountains shall be turned off or otherwise made inoperable until this testing is successfully completed and approved.

   a. Domestic Cold Water Piping **ABOVE GRADE**: Piping shall be ASTM B88 Type "L" seamless hard drawn copper tubing with ANSI B 16.22 wrought copper fittings. Joints shall be made up with lead-free, nickel bearing alloy solder such as Harris Bridget.

   b. Domestic Cold Water Piping **BELOW GRADE**: Piping shall be ASTM B88 Type "K" seamless hard drawn copper tubing with ANSI B 16.22 wrought copper fittings. Joints shall be made up with lead-free, nickel bearing alloy solder such as Harris Bridget.

5. All Pipes: Shall be homogeneous throughout and free from cracks, holes, foreign materials, blisters, deleterious wrinkles, and dents.

6. Solvent-welded Schedule 40 PVC plastic pipe and fittings shall be used for pipe sizes up to and including 2½ inch for installation of irrigation pressure lines and lateral lines.

7. Class 200 PVC gasketed pipe with ductile iron fittings and restraints as detailed on Contract Drawings shall be used for continuously pressurized pipe of sizes of 3-inch up to and including 6-inch diameter.

8. Schedule 80 PVC plastic pipe and threaded fittings shall be used only when threaded joints are specified, or otherwise permitted by the City Engineer.

9. All piping shall be permanently marked with the following: Manufacturer's name or trademark, size, schedule, and type of pipe, working pressure at 73 degrees F. and National Sanitation Foundation (N.S.F.) approval.

10. Ductile iron fittings for restrained plastic pipe shall be manufactured of ductile iron, Grade 65-45-12 in accordance with ASTM A536. Fittings shall have deep bell push-on joints with gaskets meeting ASTM F477. All ductile iron fittings shall be manufactured by HARCO Fittings or approved equal. (http://www.harcofittings.com)

   a. Valve to pipe restraints shall consist of ductile iron (ASTM A536) grip rings with machined serrations and ductile iron restraint rods. The ring that grips the pipe shall meet the requirements of UNI-B-13-94. The restraint rod nuts shall be made from low alloy steel to AWWA/ANSI C111/A21.11 or ductile iron to ASTM A536.

   b. Fitting to pipe restraints shall allow the full rating of the pipe on which it is used. Grip rings and restraint structures shall be made of ductile iron to ASTM A536. Grip ring serrations (gripping features) shall be fully machined or cast. Clamp bolts and nuts shall meet or exceed ASTM A307.

   c. Pipe to pipe restraints shall allow the full rating of the pipe on which it is used. Grip rings and bell rings shall be made of ductile iron to ASTM A536. Grip ring serrations (gripping features) shall be fully machined or cast. Restraint rod nuts shall be of low alloy steel to AWWA/ANSI C111/A21.11. Clamp bolts and nuts shall meet or exceed ASTM A307. Pipe to pipe restraint shall meet or exceed the full rating of the pipe on which it is used.

11. Gasket lubricant for push on fittings shall be non-toxic, odorless, tasteless and shall not support bacteria. Use 'Seal Lube", SK#87710 by IPS Weldon Corp. or equal.

C. Valves:

1. General: Provide valves of the type and capacity designated on the Contract Drawings and with the requirements specified herein. All valves shall be capable of continuous performance at a working pressure of 200 psi or less.

2. Gate Valves and Mainline Isolation Valves: ***in sizes 2.5-inch and smaller*** shall be bronze type, non-rising stem, solid wedge gate valve; Nibco T-113-LF or approved equal.

3. Mainline Isolation Valves: ***in sizes 3-inch and larger*** shall be Nibco #P-619-RW IPS PVC push-on type resilient wedge cast iron gate valve with electrostatically applied fusion-bonded epoxy 8-20 mil. thick inside and outside or approved equal.

4. Automatic Control Valves: Electrically operated, cast brass or bronze normally closed globe valve, capable of with manual flow control adjustment and manual operation capability, readily disassembled for servicing, slow opening and closing, and self-flushing. Reclaimed water compatible. Rain Bird EFB-CP Series or Toro 220 series or approved equal.

5. Quick-Coupling Valves: shall be 1" type with two-piece red brass construction with a locking thermoplastic rubber cover. The CONTRACTOR shall provide one quick coupler key with hose swivel for each five quick couplers installed. Rain Bird model #44LRC or approved equal.

D. Valve Boxes: shall be constructed of polypropylene or equivalent material for maximum durability, UV protection and corrosion resistance. The plastic body, excluding extensions, shall have pipe slots on each end and the plastic body shall have two (2) resting points for the lid to sit securely and flush. The plastic lid shall have molded diamond tread-pattern for skid resistance. Valve boxes shall have a lockable lid using a hex-bolt to secure the cover.

1. For Remote Control Valves and Quick Couplers: The dimensions of the box shall be 14.5" L x 9.4" W, Model VB-STD-H by Rain Bird, or approved equal. The lid shall be permanently heat-embossed RCV with station number for each valve.

2. For Gate Valves or Isolation Valves 2.5" or larger: The dimensions of the box shall be 14.5" L x 9.4" W, Model VB-STD-H by Rain Bird, or approved equal. The lid shall be permanently heat-embossed with GV for each valve.

3. For Gate Valves 2" or less: The dimensions of the box shall be 13.75 inches bottom diameter and 10" top diameter. Model VB-10RND-H by Rain Bird, or approved equal. The lid shall be permanently heat-embossed with GV for each valve.

4. Boxes are to be installed per the applicable details. The lid shall be permanently heat-embossed as follows (paint is not acceptable):

Gate Valve/Isolation Valve	GV
Remote Control Valve	RCV
Quick Coupler Valve	QC
Master Valve	MV
Flow Meter	FM

E. Backflow Prevention - Reduced Pressure Zone Assembly and Wye Strainer 2" or smaller:

1. Reduced Pressure Zone Assembly: shall consist of two independently operating, spring loaded, "Y" pattern check valves and one hydraulically dependent differential relief valve. Mainline valve body and caps including relief valve body and cover shall be lead-free cast copper silicon alloy. Check valve and relief valve components shall be constructed so they may be serviced without removing the valve body from the line. Shutoff valves and test cocks shall be full ported ball valves.

2. The assembly shall be rated to 175psi working pressure and water temperature range from 32°F to 140°F. The lead-free* Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall meet the requirements of AWWA Standard Code C511; and approved by the Foundation for Cross-Connection Control and Hydraulic Hydraulic Research at the University of Southern California. The Reduced Pressure Zone Assembly shall be Febco LF825Y or approved equal.

3. Wye-Strainer: The main body shall be low lead bronze (ASTM B 584), the access cover shall be low lead yellow brass (ASTM B 16) or cast bronze (ASTM B 584), the strainer screen shall be 300 series stainless steel #100 mesh. Screens shall be accessible for cleaning without removing the device from the line. The "Y" type strainer shall be a ZURN WILKINS Model YBXL-100 or approved equal.

4. Backflow enclosure: shall be of a vandal resistant nature manufactured of formed cold rolled steel tubing and rod, coated with a performance polymer alloy. All locking and mounting hardware shall be manufactured entirely of stainless steel. Each enclosure shall have amounting pad which shall be used as installation frame. Enclosure hardware on the mounting frame shall be stainless steel. The backflow cage enclosure shall remain bolted to frame in open and closed positions. Enclosure and door shall close with concealed locking tab with hole to accept padlock. Enclosure shall be powder-coated dark green. By Strongbox, SBBC-CR series or approved equal. https://strongbox.com

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F. Irrigation Heads:

1. Pop-up spray head: bodies shall have a 4", 6" or 12" pop-up stroke. The body of the spray head shall be constructed of corrosion and UV-resistant, heavy-duty A.B.S. The spray head body shall have a factory-installed drain check valve capable of checking up to 10 feet in elevation change. The spray head body shall have a standard pressure-regulating device as an integral part of the pop-up riser maintaining a constant nozzle outlet pressure of 30 or 45 PSI with inlet pressures of up to 100 PSI. Nozzles shall be matched precipitation rate, fixed spray or multiple-stream, rotating type or other as noted on Contract Drawings. As manufactured by Toro Company models #570Z-4P-PRXCOM, #570Z-6P-PRXCOM, #570Z-12P-PRXCOM or approved equal.

2. Pop-up Gear Driven Rotor Head: The body of the rotor head shall be constructed of corrosion and UV-resistant, heavy-duty A.B.S. The rotor head body shall have a factory-installed drain check valve capable of checking up to 10 feet in elevation change. The full or part-circle rotor head shall be a single stream, water lubricated, gear drive type capable of both full circle and/or part circle operation in the same unit as noted on Contract Drawings. The rotor head shall have a screen attached to the drive housing to filter inlet water, protect the drive from clogging and simplify its removal for cleaning and flushing of the system. The rotor head body shall have a 1" (26/34) female (NPT or BSP) bottom inlet. The rotor head shall have a standard rubber cover which designates each adjustment opening from the top. Pop-up height as measured from the top of the cover to the centerline of the nozzle orifice shall be at least 5 inches. The rotor shall have a stainless-steel covered nozzle turret and riser stem. As manufactured by the Toro Company. Model #'s: T5, T7 or approved equal.

3. Root Watering System: The RWS assembly shall consist of a perforated polyethylene rigid mesh cylinder 18" long x 4" diameter or 10" long x 2" diameter with an integrated pressure compensating bubbler and optional check valve. The assembly shall be preconfigured with swing joint assembly or spiral barbed fittings to enable the RWS to be directly connected to PVC or polyethylene lateral drip lines and shall have a plastic locking grate cover. Manufactured by Rain Bird Corporation or approved equal.

4. SA Swing Joint Assemblies: The Swing Assemblies shall be used as a flexible swing joint assembly for 1/2" inlet sprinklers. The pipe shall be flexible black tubing constructed of linear low-density polyethylene material with a wall thickness of 0.090"and an inside diameter of 0.490".The fittings shall be constructed of UV-resistant, thermoplastic material. The Swing Assembly shall have an operating pressure rating of 80 psi at 110° F. As manufactured by Rain Bird Corporation or approved equal.

5. TSJ (PRS) Swing Joint Assemblies: The swing joints shall be used as a height adjustable connector between lateral lines and 3⁄4" or 1" sprinklers or quick coupler valves. The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi at 73° F when tested in accordance with ASTM D3139, including 60 minutes at 790 psi, and short-term exposure of 1000 psi without leakage. All NPT threads, sockets, and spigots shall be Schedule 80 per ASTM D2464 and D2467. All components shall be factory preassembled, available with 3⁄4" or 1" inlet/outlet and in lengths of 12" and 18". All rotating joints shall be modified stub ACME threads. All rotating joints shall have two EPDM rubber O-rings for positive sealing and thread protection.

   a. When specified, the pressure regulating system (PRS) shall consist of the outlet elbow of a Rain Bird Turf Swing Joint (TSJ). The TSJ-PRS shall allow pressure to increase uniformly within the rotor up to the preset regulation pressure before regulation occurs. Pressure regulation shall be provided to rotors with 3⁄4" and 1" inlets by means of a spring-loaded diaphragm attached to a flow tube. The regulator housing shall be constructed of high strength PVC. All metal components shall be made of stainless steel. The diaphragm shall be a fabric reinforced elastomer.

G. Automatic Controller Unit: The Controller shall be capable of fully automatic or manual operation with an interface to a two-wire path for decoder-based irrigation control. The controller shall provide flow sensing capability and management and a station capacity expandable to 200 stations. Controller shall include: automatic Et calculations and The ability to use any of four different Et sources as the basis for Et calculations; Cycle-and-Soak or conventional start times; Four independently controlled programs with 5 selectable start times for a total of 20 possible cycles per day or Cycle-and-Soak with unlimited start times; Flow sensing capability to monitor system flow and responds to high, low, unscheduled and no-flow conditions; Detection of valve wiring faults and automatic field wire detection enabling the controller to sense a short in the field wire and instantly turn off that station; Optional internet control via wireless cellular communication; manufactured by Rain Master Control Systems or approved equal.

1. The automatic controller shall be enclosed in a Heavy-Duty Stainless-Steel Top Entry Enclosure model SB-22SS by Strongbox or approved equal.

2. Valve decoders: shall be Rain Master TW-D-1 Single valve AC decoder, TW-D-2 Dual valve AC decoder, TW-D-4 Quad valve AC decoder, TW-LA-1 Lightning arrestor (every 600 feet) as indicated in the Contract Drawings. Install and connect to 2-wire path per manufacturer's instructions and as indicated in the Contract Drawings. All decoders must be manufactured by SAME manufacturer and compatible with the 2-wire controller system specified.

H. Sensor wire: provide per manufacturer's requirements and install per Contract Drawings and details in conduit per below.

Control Wire:

1. Connection between the automatic controller and the valve decoders shall be made with polyethylene double-jacketed or UF-B UL PVC double-jacketed two-conductor solid core wire designed for direct burial with insulation 3/16 inch (.060") thick, high density, sunlight resistant incased in an outer jacket of Polyethylene or PVC conforming to ICEA S-GL-402 or NEMA WC5, having a minimum wall thickness of .045 inches. *Polyethylene 'twisted' cable and single strand 14-gauge PVC coated irrigation wire are not acceptable.*

2. 2-WIRE Conductor Sizing**:** Standard wire lengths for straight line installation i.e. wire distance to the furthest device without any loop:

Wire Size (gauge)	#14	#12
Max. loop Length	10,000'	14,800'
Distance to furthest valve	5,000'	7,400'

3. All 2-wire conductors shall be installed in a 1-1/4" diameter sch. 80 PVC conduit per details. Distance between pull boxes shall not exceed 200'.

4. Low voltage control wire conductors between the 2-wire decoders and the valves shall be U.L. approved direct burial Type U.F., 600-volt, No. 14 AWG solid copper. Use a different color wire for each valve in the manifold grouping.

I. Wire Connectors: Control wire connections shall be made with 3-M brand of DBY or DBR Direct Burial Splice kits or approved equal. The splice kit shall consist of a one-piece malleable plastic bulb body with internal locking fingers, filled with re-enterable gel sealant and a Scotchlok Electrical Spring Connector. Materials shall be as follows:

1. Connector shall be a flame-retardant PVC insulator with a steel spring and shell within. Connector shall be a non-crimping system

2. Tube material shall be clear see-through polypropylene.

3. Gel material shall be hixotropic calcium organic complex.

4. Wire sizes and numbers of wires per connector shall be as follows:

Connector:	Color:	No. and Size of Wires:
3M Model DBY	Yellow	Max. 4-12 gage UF wires
3M Model DBR	Red	Max. 3-14 gage UF wires

J. Concrete Thrust Blocks: Provide concrete thrust blocks per details where applicable for plastic pipes with 3"-inch diameter or larger, and all backflow preventer assemblies. The Portland cement concrete used for concrete thrust blocks shall be 470-B-2000 concrete.

PART THREE - EXECUTION

3.1 SURFACE CONDITIONS

Examine the area of work and conditions under which work of this Section will be performed. Correct any conditions detrimental to timely and proper completion of the work prior to commencing installation of irrigation equipment.

3.2 IRRIGATION SYSTEM INSTALLATION:

A. General:

1. The Irrigation system layout shown on the Contract Drawings shall be considered as diagrammatic. The CONTRACTOR shall make adjustments where necessary to conform to actual field conditions unless otherwise noted or as directed by the ENGINEER at no additional cost to the CITY.

2. All piping shown on the Contract Drawings in paved areas but running parallel and adjacent to planted areas, is done for clarity only and is to be installed inside the planting area whenever possible.

3. Specimen trees (24-inch or larger size box) may be planted before installing the irrigation system upon written approval from the PROJECT MANAGER. CONTRACTOR shall re-route irrigation lines conflicting with specimen plant locations to clear the root ball by twenty-four (24) inches minimum at no additional cost to the CITY. Watering of all specimen trees planted before completion of the irrigation system shall be the CONTRACTOR'S responsibility.

4. CONTRACTOR shall make all required water and utility connections as shown on the Contract Drawings or as required by the utility company. Replace all sidewalks, curbs or paving removed or damaged by the installation of required utilities to the satisfaction of the BCA Inspector.

B. Trench Excavating and Backfilling: Size trenches and other excavations to accommodate the irrigation system components, conduits, pipe bedding material and other required elements indicated on Contract Drawings. Provide a minimum of 8" of side clearance on outside of the piping or conduit to assure proper installation and access for inspections.

1. See TREE PROTECTION REQUIREMENTS on Sheet L100 for all trenching within the protected root zone of an existing tree.

2. Unless otherwise specified, the minimum depth of cover over pipelines and conduits shall be as follows:

   a. Control wire conduit: 30-inches (36-inches under roadways and parking lots).

   b. Other Control Wiring: Depth of mainline, or a minimum of 24-inches cover if without any mainline.

   c. Irrigation Mainline: 24-inches for piping 3" and smaller; 30-inches for piping 4" and larger.

   d. Lateral sprinkler lines: 12-inches.

3. Make the bottom of trenches true to grade and free of protruding stones, roots or other matter which would prevent proper bedding of pipe or other facilities.

4. All trench backfill shall be performed in accordance with approved soils report. Pipe bedding shall be clean site soil, free of all rocks, debris, etc. over 1/2" diameter. Bed pipe in at least 4-inches of finely divided material to provide a firm, uniform bearing. Surround the pipe with additional finely divided material to at least 12-inches over the top of the pipe. Bedding shall be placed in 8-inch maximum lifts. Backfill shall be site soil placed above the bedding to finish grade. There shall be no rocks over 2" in greatest dimension or organic matter in the backfill. All bedding and backfill shall be properly moisture conditioned and compacted at each lift. All trenches shall have a minimum relative compaction of 90%. Compaction shall be tested by the CITY at locations to be determined by the GEOTECHNICAL ENGINEER.

5. Finished trenches shall be flush with adjacent finish grades. The CONTRACTOR shall be responsible for maintaining the trenches flush and smooth with adjacent surface grade until final acceptance of the project. After compaction has been approved, trenches in existing turf areas shall be re-planted per "Method A" lawn repair of the Landscape Planting Specifications, unless otherwise noted.

C. Irrigation Pipeline Installation - General: Execute trench excavating and backfilling, including the depth of cover over the pipeline, in accordance with requirements above.

1. Pipe layout as shown on irrigation plan is diagrammatic. CONTRACTOR shall route piping in planted areas in the most expedient manner consistent with the requirements set forth herein, including avoidance of tree roots.

2. When two or more pipelines are installed in the same trench, separate the pipelines by a minimum horizontal clear distance of 12-inches. Install piping such that each pipe, valve, or other component may be serviced or replaced without disturbing the others.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
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LAST TEMPLATE REVISION JULY 12, 2013
REVISIONS DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
RICHARD A. FISHER
No. 3940
Exp. 10-31-21
STATE OF CALIFORNIA

CITY ENGINEER	LIC. NO.: 3940	DATE: 04/21/2021
ARCHITECTURAL DIVISION		
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SCHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES SHEET 8

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L008
SHEET 15 OF SHEETS 74

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3. During installation of pipe, fittings, valves, and other components, prevent soil or foreign matter from entering the system. Temporarily cap or plug all open ends at completion of installation operations.

4. All changes in pipe size shall be made with reducer fittings. No close nipples or bushings shall be used.

5. Where irrigation piping crosses a vehicular roadway or other paving, sleeve all pipe and conduit inside a Schedule 40 PVC sleeve of a minimum of two pipe sizes larger than the piping to pass through it under the paving at the depth of the mainline or 30 inches minimum. All sleeves shall extend a minimum of 3 feet beyond the edges of paving.

6. Pipe or irrigation components of dissimilar metals shall be separated by an approved "Dielectric" coupling.

D. Steel Pipe:

1. Cut square and ream pipe end to full size with a long taper reamer.

2. Cut threads with clean sharp dies.

3. Make joints with a non-toxic, non-hardening joint compound applied to the male threads only.

4. Wrap steel pipe embedded in the ground with seamless 10 mil F.D.S. Safe-T-clad tape. Spiral wrap pipe with uniform laps. Apply the second layer of wrap in the reverse direction of the first layer of wrap.

5. Joints and any remaining unwrapped portion of the pipeline shall be similarly wrapped after pressure testing.

E. Solvent Welded Plastic Pipeline:

1. Join plastic pipe with slip type solvent welded fittings, threaded fittings as specified. Install steel pipe first when plastic pipe is joined to steel pipe.

2. Cut pipe square, externally chamfer approximately 10-15 degrees, and remove all burrs and fins.

3. Prior to the application of the P.V.C. solvent cement, prepare all surfaces to be solvent welded with tetrahydrofuran primer tinted purple. Make solvent welded joints in accordance with ASTM D2855 - PRACTICE FOR MAKING - SOLVENT - CEMENTED JOINTS WITH POLY (VINYL CHLORIDE) (PVC) PIPE AND FITTINGS. Use a solvent approved by the pipe manufacturer.

4. Install plastic pipe in accordance with ASTM D2774 - PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING and the requirements herein. Exercise care in assembling a pipeline with solvent welded joints so that stress on previously made joints is avoided. Handling of the pipe following jointing, such as lowering the assembled pipeline into the trench, shall not occur prior to the set times specified by the manufacturer.

5. Apply solvent to pipe ends in such a manner that no material is deposited on the interior surface of the pipe or extruded into the interior of the pipe during jointing. Wipe off excess cement on the exterior of the joint immediately after assembly.

6. Make threaded pipe joints using Teflon tape or other approved jointing material. Do not use solvent with threaded joints. Protect pipe from tool damage during assembly. Use vises with padded jaws and strap wrenches for installation of fittings and nipples. Remove and replace any plastic pipe which has been nicked, scarred, or otherwise damaged.

7. Snake plastic pipe from side to side in the trench to allow 1-foot of expansion and contraction per 100 feet of straight run.

8. Do not expose the pipeline to water for 24 hours after the last solvent welded joint is made.

F. HDPE Heat Welded Pipe: Contractor shall follow Mfr's instructions for heat welding of all fittings. All heat welded fittings must be inspected by BCA inspector before covering pipe.

G. Bell and Spigot Gasketed Pipeline:

1. Join plastic pipe with "push-on" type gasketed fittings with mechanical restraints as detailed and specified.

2. Cut pipe square, externally chamfer approximately 10-15 degrees, and remove all burrs and fins. Remove and replace any plastic pipe which has been nicked, scarred, or otherwise damaged.

3. Align pipe sections straight. Clean all debris from the bell areas of the fitting and install gasket so that it is completely seated in the groove with no raised areas.

4. Apply lubricant to the installed gasket and to beveled end of the cut pipe or to the spigot end of the pipe or fitting. Align the pipe with fitting and push together by hand or with pry bars on the end of the fitting or with two pry bars using the lugs on the fitting. Insert until the reference line mark is even with edge of the fitting bell.

5. Install mechanical restraints per details and manufacturer's instructions.

6. Snake plastic pipe from side to side in the trench to allow 1-foot of expansion and contraction per 1000 feet of straight run.

H. Installation of Valves, Valve Boxes, and Special Equipment:

1. General: Install all valves and other equipment in strict accordance with the details, and make readily accessible for manual operation, maintenance or replacement.

2. Install isolation or gate valves of the same size as the pipeline in which they are installed, unless otherwise indicated.

3. Install all valves below ground housed in a covered valve box with a securable lid that will permit access for field servicing. Boxes shall be set flush with existing grade, including sloped areas, and all soil within 12 inches of the perimeter of the box shall be compacted per the trench repair section of this specification. Boxes are to be positioned per details.

4. Set valve boxes per applicable details and set valves at sufficient depth to provide clearance between the cover and valve handle or key when the valve is in the fully open position. Do not cover valve with pea gravel.

5. Install backflow preventers per applicable details with pipe supports and the accessories necessary to properly secure the assembly where required. Install backflow preventers per prevailing codes. All Backflow devices shall be certified by a licensed inspector as required by the County Health Department Test Instructions, Water Pollution Control Section after installation at the CONTRACTOR's expense.

6. No equipment shall be installed closer than 12 inches to any paved surface, unless separated from the paved surface by a wall, fence, curb, or similar barrier, or installed underground.

I. Irrigation Head Installation and Adjustment:

1. General: In accordance with the requirements of Subsection 3.2 of this Section, flush and pressure test all mains and flush lateral lines before installing irrigation heads.

2. Irrigation Head Placement and Spacing:

a. Irrigation plans are designed, as a minimum standard, for head-to-head coverage on all spray heads. Head locations shall be determined by referencing the irrigation plan and using the head spacing listed in the irrigation head legend. Accuracy of final installation shall be within plus or minus 12 inches for all rotary heads having a throw of 30 feet or greater; within plus or minus 4 inches for all head types with a throw of under 30 feet. Do not exceed the maximum irrigation head spacing shown on the Contract Drawings.

b. Prior to head installation, CONTRACTOR shall mark the proposed locations of all irrigation heads in the field for review and approval by the Engineer. CONTRACTOR shall make any adjustments to head locations requested by the Engineer at that time at no additional expense to the City. CONTRACTOR shall provide minimum 48 hours notice prior to the requested time of inspection.

J. Head Installation:

1. Do not exceed the maximum irrigation head spacing shown on the Contract Drawings.

2. Install all irrigation heads 3-inches clear of adjacent walks, curbs, paving, headers, and similar improvements. Adjust all heads to flush with the final finish grade - adjusting for depth of sod in turf areas if needed.

3. All soil within 12 inches of the perimeter of the head shall be compacted as indicated in applicable details.

4. All irrigation heads shall be installed on swing joint assemblies as shown on details.

K. Irrigation Head Adjustment:

1. When all irrigation heads are installed and the irrigation system is operating, adjust and balance each section or unit with all section control valves fully open to obtain uniform 100% head to head coverage.

2. Adjust irrigation heads having adjustable pin nozzles, screws or orifices to provide optimum distribution of water over the coverage pattern. Without additional cost to the City, CONTRACTOR shall substitute larger or smaller nozzles in irrigation heads and/or add or omit sprinkler heads as necessary to obtain uniform coverage to meet MWELO requirements. Any requested modification shall not alter the total GPM to a degree to require a major revision of pipe sizing.

3. At no time is the irrigation system to cause excessive overspray on adjacent paved areas or cause any erosion to the site.

4. Low Head Drainage: The CONTRACTOR shall install in-line drainage swing check valves where necessary to prevent low head drainage or as indicated on contract drawings.

L. Automatic Control System Installation:

1. General: Install a complete automatic irrigation 2-wire control system, including the automatic controller, automatic control valves, decoders and wiring, and all necessary accessories and utility service connections.

2. Install the automatic controller outside of the coverage pattern of the irrigation system at the location designated on the Contract Drawings. Verify location with City Engineer prior to installation.

3. Install a separate disconnect switch between the source of power and the controller inside the controller enclosure per details. Provide grounding per details and manufacturer's instructions.

4. Install all electrical service wiring per Electrical Code in galvanized steel electrical conduit from the service point to the controller. The minimum service wire shall be No. 12 AWG copper 600-volt, Type THW or THWN or larger, as required by the controller manufacturer. Locate splices only in specified pull boxes and make splices with a water-proof packaged kit approved for underground use. Set pull boxes to finish grade on a 12-inch deep layer of one (1) inch crushed rock.

5. All 2-wire control wire shall be installed in 1-1/4" SCH 80 PVC conduit per details, with a maximum run of 200' between pull boxes. Install conduit in the same trench as irrigation mainline per trenching detail where possible. Low voltage control wire conductors between the 2-wire decoders and the valves shall be installed in 1/2" SCH 80 PVC conduit per details.

6. Wire connectors shall be DBY or DBR as manufactured by 3M Corp. Control wires shall be stripped of 1/2 inch of insulation USING A WIRE-STRIPPING TOOL SPECIFICALLY MADE FOR THAT PURPOSE, inserted into the electrical spring connector, and the connector twisted in a clockwise direction until the wires are tight. Insert the completed splice into the gel-filled tube, and check visually to confirm that the wire nut has been pushed past the fingers and is seated in the bottom of the tube. Position wires in wire channels and close insulator cover. Make splices in control wire in accordance with the requirements for service wire. Leave at least 2-feet of coiled slack at each splice and point of connection inside of valve boxes.

7. Testing Electrical Components: Field tests shall be performed by the CONTRACTOR on all irrigation system conductors in accordance with the requirements specified herein prior to performing the functional tests. Where conductors are installed by trenching and backfilling, such tests shall be performed after at least six (6) inches of backfill material has been placed over the conductors and backfill material has been compacted.

A. Prior to the start of the functional testing, the CONTRACTOR shall perform the following tests on all irrigation system electrical conductors in the presence of the BCA Inspector.

B. Each circuit shall be tested for continuity and open circuits.

C. Each circuit shall be tested for proper grounding.

D. An insulation resistance test at 500-volts DC shall be made on each circuit between the circuit and the ground. The insulation resistance shall not be less than 10-megohms on all circuits.

E. The functional test for all the electric automatic irrigation system(s) shall consists of a minimum of fifteen (15) working days of operation during which time the controller shall complete at least three (3) complete cycles automatically for each station. The lengths and frequencies of the cycles will be determined by the City's representative. If unsatisfactory performance of the system develops, the condition shall be corrected, and the test repeated until fifteen (15) working days of continuous, satisfactory operation is obtained.

F. The functional test shall be satisfactorily completed prior to the start of the plant establishment period.

G. Repair to the irrigation system wiring shall be made within five (5) working days of a malfunction or damage to any portion of the system.

8. CONTRACTOR shall leave the control system in operating condition with an operational chart mounted within the controller cabinet upon completion of the work.

3.3 FLUSHING AND TESTING

After completion, and prior to the installation of any terminal fittings, thoroughly flush the entire pipeline system to remove dirt, scale, or other material. After flushing, conduct the following tests in the sequence listed below. Provide all equipment, materials, and labor necessary to perform the tests. Conduct all tests in the presence of the City Inspector.

A. The irrigation system mainlines shall be pressure tested for 24 hours at 125 p.s.i. with all control valves in place and closed. During the test, the CONTRACTOR shall provide pressure gauges downstream from the backflow device and upstream from the farthest remote-control valve in the system. Air pressure testing of the irrigation system is acceptable if approved by the BCA inspector. Placement of control wires shall be verified before mainline trenches are backfilled after pressure test.

B. After installation, the irrigation lateral lines shall be thoroughly flushed in the presence of the BCA inspector. Each valve and lateral system shall be flushed commencing with the head closest to the valve and proceeding to the farthest head.

C. Irrigation Coverage Test: After installation of heads and lateral lines etc., entire irrigation system shall be tested for coverage. The BCA Inspector, Project Manager, CONTRACTOR and Recreation and Parks Regional maintenance staff shall be notified three (3) days before the scheduled test. Perform the coverage test for each zone after irrigation heads have been installed and demonstrated that each section or unit in the irrigation system is balanced to provide uniform and adequate coverage of the areas serviced. Correct deficiencies in the system in accordance with the requirements of Subsection 3.2(G)4.

D. Operational Test: Evaluate the performance of all components of the automatic control system for manual and automatic operation. During the maintenance period, and at least 15 days prior to final inspection, set the controller on automatic operation so that the system will operate satisfactorily during such period. Make all necessary repairs, replacements, and adjustments until all equipment, electrical work, controls, and instrumentation are functioning in accordance with the Contract Documents.

3.4 OPERATING MANUALS AND EQUIPMENT

A. Furnish the City with 2 bound copies of operating and maintenance manuals for all irrigation system equipment such as automatic controller, valves, heads, etc.

B. Explain in detail all irrigation equipment operations, watering schedule and maintenance procedures to the City personnel as directed by the Project Manager before completion of the project.

C. Provide the City with a reduced legible copy of the "As-Installed" Irrigation Plan hermetically sealed in a plastic cover to be affixed inside the controller cover.

BUREAU OF ENGINEERING
OFFICIAL RECORD

15. LANDSCAPE PLANTING

PART ONE - GENERAL

1.1 DESCRIPTION

Work Included:

All labor, materials, equipment, and tools necessary to provide and execute: soil preparation and amendments; planting of new trees, plants, shrubs, vines, and ground cover and sod; all required testing and inspections; maintenance and establishment of new landscape plantings as indicated on the Contract Drawings, specified herein and as needed for complete and proper installation and maintenance.

1.2 SUBMITTALS

A. The CONTRACTOR shall make all required materials submittals in accordance with Article 10 of the General Requirements.

B. The CONTRACTOR shall make substitution submittals in accordance with Article 11 of the General Requirements.

C. Submit copies of the following:

1. Complete list of landscape plant materials soil amendments, fertilizers, herbicides, and miscellaneous hardware complete with descriptions and/or photographs and manufacturer's literature. Clearly mark or underline proposed items.

1.3 QUALITY ASSURANCE

Codes and Regulations: CONTRACTOR to obtain and pay for all required permits. Deliver all permits and submit certifications of compliance to the ENGINEER.

1.4 GENERAL REQUIREMENTS

A. Required Approvals by the ENGINEER: No work included in this Section shall be commenced until the following are completed and approved:

1. All work on irrigation system prior to start of landscape planting work.

2. All reviews on required submittals and re-submittals requested by the ENGINEER for materials included in this section.

B. Inspection: All work and materials are subject to inspection and approval by the Bureau of Contract Administration (BCA) Inspector and the PROJECT MANAGER. Any work done without proper inspection will be subject to rejection per Section 2-11 of the Standard Specifications for Public Works Construction. The CONTRACTOR shall notify the Bureau of Contract Administration (BCA) Inspector and PROJECT MANAGER three (3) days prior to requested inspection of the following for approvals:

1. For all finish grades in planting areas following all weed/pest control, soil fertilizing and conditioning, prior to landscape container planting, and after rolling in turf areas.

2. Inspection of all plant materials under 24" box size shall be at the time of delivery to the job site. This inspection will be for compliance with the caliper, height and spread requirements if given on the plant legend and for the general health, structure and appearance of plants. The CONTRACTOR shall also stake all tree planting locations at this time for review and approval by the ENGINEER.

3. Tagging of 24" box or larger trees at the grower with Recreation and Parks tags. This inspection will be for compliance with the caliper, height and spread requirements if given on the plant legend and general health, structure and appearance of plants. All trees shall be tagged by the ENGINEER or authorized representative.

4. All completed landscape planting and irrigation work for approval to begin the plant maintenance and plant establishment period.

C. Existing Plant Materials: Protect all existing plant materials, not designated for removal or modification, in place against damage resulting from work of this Contract. Perform any removal and/or trimming only on approval or instructions from the ENGINEER or in accordance with applicable provisions noted or specified on the Contract Drawings. CONTRACTOR shall replace all damaged existing plant material with like type and size material. If an acceptable replacement is not available, CONTRACTOR shall pay damages to the CITY for the value of the damaged tree as assessed by the tree value formula in the ISA Guide for Establishing Value of Trees and Other Plants.

D. Tree Protection Requirements: See sheet L-100.

1.5 DELIVERY, STORAGE AND HANDLING

A. Delivery:

1. Delivery of plant material shall begin only when it is ready for plant installation and after the inspections are made and any required soil samples and tests have been reviewed by the PROJECT MANAGER. All materials furnished for the work shall be not less than the approved submittal. Upon delivery, CONTRACTOR shall tag one plant of each variety for identifying purposes.

2. Notify the ENGINEER of a scheduled delivery a minimum of 48 hours in advance so the plant materials may be inspected upon arrival at the jobsite. All plant material judged by the ENGINEER at the time of delivery as unacceptable shall be removed immediately from the jobsite by the CONTRACTOR. All trees not accompanied with the tags signed placed the ENGINEER or the authorized representative, or plants not correspondent with contract requirements shall be rejected and immediately removed from the job site.

3. Protect plants during delivery against damage to root balls or desiccation of leaves. Protect trees during transport by tying in the branches and covering all exposed branches.

4. Deliver fertilizer to the jobsite in the original and unopened containers bearing manufacturer's guarantee chemical analysis, name, trademark or trade name in conformance with Federal and Local law. In lieu of containers, fertilizer may be furnished in bulk and a certificate indicating the above information shall accompany each delivery.

A. Storage:

1. Keep fertilizer in dry storage away from contaminants. Loose fertilizers and soil amendments shall be kept covered with a tarp.

2. Store plants not installed on the day of arrival at the jobsite as follows:

a. Outside storage to be protected from wind.

b. Keep plants in containers in a moist condition until planted by watering with fine mist spray.

A. Handling: Transport and handle plants with care to ensure protection against injury.

PART TWO - PRODUCTS

2.1 MATERIALS

A. Topsoil: The type and thickness of topsoil shall be as shown on the plans. If not shown, the topsoil shall be the existing class "C" on-site topsoil and amended as indicated.

B. Fertilizers and Conditioning Materials: Comply with the applicable requirements of the State Agricultural Code. All fertilizing materials shall be packaged, first grade, commercial quality products identified by source, type of material, weight and manufacturer's guaranteed analysis. Fertilizing material shall not contain toxic ingredients or fillers in quantities harmful to human, animal, or plant life.

(1) Agricultural Gypsum: Hydrated calcium sulfate product containing 23 percent calcium and 18 percent sulfur with a guaranteed analysis of 84 percent calcium sulfate.

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CITY OF LOS ANGELES
ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

LANDSCAPE ARCHITECT
RICHARD A. FISHER
No. 3940
Exp. 10-31-21
REGISTERED
04-05-21
DATE
STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LIC. NO.: 3940

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY:	GREG MOESER	04/21/2021
DRAWN BY:	GREG MOESER	04/21/2021
CHECKED BY:	RICHARD FISHER	04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES
SHEET 9

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L009
SHEET 16 OF SHEETS 74

PLOTTED: 8/24/2021 2:18 PM

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SHEET ISSUE DATE: 8/24/2021 2:17 PM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\XREFS\SHELDON_ARLETA_TTLB_BLOCK.DWG

REVISION DATES (DESIGN STAGE ONLY)

(2) General Purpose Fertilizer: Shall be Gro-Power Plus fertilizer, having a minimum analysis of 5-3-1 (N-P-K) derived from ammonium phosphate, urea, sulfate of potash, compost and sulfides and oxides of iron, manganese and zinc, with 1.00% Alkyl Naphthalene Sodium Sulfonate soil penetrant as manufactured by Gro-Power Inc., 5065 Telephone Avenue, Chino, CA 91710 (909) 393-3744, or an approved equal. https://www.gropower.com

(3) Fertilizer Tablets**:** Fertilizer tablets shall be Tri-C Myco Tabs planting tablets, 1.7 gram 17-9-5 (N-P-K) as manufactured by TRi-C Organics Inc., (800) 590-3301, or an approved equal. https://www.tricorganics.com

(4) Non-Selective Herbicide**:** Shall be Finale™, by BASF, or an approved equal. All herbicides, when required, shall be specified and applied by a licensed Pest Control Advisor in a manner consistent with the manufacturer's product labelling. Prior to application, CONTRACTOR shall submit proposed herbicide and a diagram showing the area of application for approval to the PROJECT MANAGER.

(5) Pre-Emergent Herbicide: Shall be Specticle G Pre Emergent Granular Herbicide, by Bayer Environmental Sciences, or an approved equal applied at the rate of 2.3 lb./1000 sf. All pre-emergent herbicides, when required, shall be specified and applied by a licensed Pest Control Advisor per the manufacturer's recommendations.

(6) Granular Humic Acid Soil Conditioner: Shall be LIVE EARTH HUMATE SOIL CONDITIONER [PLUS GYPSUM] or Tri-C Humate [Tri-C Humate Plus with Gypsum] or approved equal. Contact Todd Burns, Live Earth Products, Inc. (661) 978-7307 for availability, or TRi-C Organics Inc., (800) 590-3301 https://www.tricorganics.com, or an approved equal. Apply per manufacturer's instructions.

(7) Soil Penetrant: Shall be "Ground Breaker" by Green As it Gets, Inc. or approved equal. Soil penetrant shall contain organic yucca and kelp extracts. Soil penetrant MAY NOT contain alcohol. Apply soil penetrant per manufacturer's instructions. Contact: Green As It Gets Inc., 300 Morning Drive, Bakersfield, CA 93306 Phone: 1-800-476-0034. https://www.greenasitgets.com

(8) Organic Soil Amendment: "Type 1" organic soil amendment shall be a relatively dry and friable fine-textured organic composite that is well-composted and nitrogen stabilized, derived from composted greenwaste or processed wood products, and free of foreign matter including animal waste and any viable plant, tree or weed seed. 99% of material shall pass through a 1/2" screen. CONTRACTOR shall submit a sample of the organic soil amendment to the PROJECT MANAGER for approval prior to installation.

All Organic Soil Amendment shall conform with the following criteria:

a. The pH of the material shall be between 6 to 7.5.

b. Salinity: material shall have a maximum saturation extract conductivity of 2.50 millisiemens per centimeter.

c. Boron content of the saturated extract shall be less than 1.0 parts per million.

d. Sludge-based or animal waste materials are not allowed.

e. Carbon:Nitrogen ratio is less than 25:1.

f. All compost shall be aerobic without malodorous presence of decomposition products.

g. Maximum total permissible pollutant concentrations in amendment in parts per million on a dry weight basis:

Arsenic	20	Copper	150	Selenium	50
Cadmium	15	Lead	200	Silver	10
Chromium	300	Mercury	10	Vanadium	50
Cobalt	50	Molybdenum	60	Zinc	300
Nickel	100				

9. Top Dress Mulch: Shall be well-seasoned composted tree chip mulch, free all foreign matter including weed and tree seeds. Mulch chip size shall be minimum one (1) inch in diameter and not more than four (4) inches in diameter. Submit a sample of mulch and source to the PROJECT MANAGER for approval prior to application.

A. Plant Materials:

1. Availability & substitutions: No substitutions of plant species, type, cultivar, size etc. will be accepted without prior approval of PROJECT MANAGER. CONTRACTOR is expected to utilize all reasonable nursery resources in the Southern California region before determining if a specified material is unavailable. When plants of a specified kind or size are determined by PROJECT MANAGER to be not available, substitution may be made upon approval by the ENGINEER, in accordance with the General Conditions. CONTRACTOR shall provide information regarding his attempts to locate such material.

2. All Plants: The plant names shown or listed on the Contract Drawings shall conform to the "Sunset Western Garden Book," latest edition unless otherwise specified. In all cases, botanical names take precedence over common names. One plant of each variety shall be tagged for identifying purposes.

3. Quality: All plants shall have a growth habit normal to the species in accordance with U.S.A. Standards for Nursery Stocks, latest editions; shall be sound, healthy, vigorous and free from insect pests, plant disease, sun scalds, weeds, fresh bark abrasions, excessive abrasions or other objectionable disfigurements. Tree trunks shall have normal well-developed branch systems. All plant materials shall have vigorous and fibrous root system, not root bound and shall be free of kinked or girdling roots. The CONTRACTOR shall be responsible for the condition of all plants, planted or otherwise, until final acceptance by the CITY and termination of maintenance period

4. Sod: Shall be of the type designated on the planting plan, or an approved equal. Sod shall be delivered to the job site within 24 hours of being cut at the nursery, and COMPLETELY installed within 12 hours of delivery to the job site. The sod shall be machine cut to between 3/8" and 5/8" thick, not including top growth or thatch.

5. All plants shall be inspected and approved prior to planting as per provisions of Subsection 1.4(B) specified above.

B. Tree Stakes:

1. Wood tree stakes 2-inches in diameter by 8-feet long, lodgepole grade, pressure-treated, capable of standing in the ground at least two years.

a. All trees in non-turf areas as indicated on the Contract Drawings shall be ***double staked*** per detail.

b. All trees in turf areas as indicated on the Contract Drawings shall be ***triple staked per detail.***

PART THREE - EXECUTION

3.1 GENERAL

A. The Landscape work shall not be performed at any time when it may be subject to damage by climatic conditions.

B. In case of conflict between the plant schedule totals and total plant count of the contract documents, the CONTRACTOR shall provide the higher number of plants.

C. Delivery of material shall begin only when it is ready for the work and after the inspections are made and the required samples and tests have been reviewed by the ENGINEER. All materials furnished for the work shall be not less than the reviewed sample.

D. The CONTRACTOR shall abide by the Tree Preservation Guidelines, Section 1.4 herein for all trees indicated to remain.

3.2 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until detrimental conditions are corrected.

GRADING AND SITE PREPARATION:

A. Rough Grading:

Earthwork and Topsoil Placement: Shall include excavation and backfilling for the irrigation system and the preparation for the spreading, densification, cultivation and raking of topsoil.

B. Topsoil Preparation and Amendment:

1. After completion of ***all necessary trenching and backfill*** for electrical, irrigation, or drainage piping and conduit, bring planting areas to approximate finish grade, including construction of landscape mounds, before performing soil amendment. CONTRACTOR shall account for the amount of fertilizer and soil amendments to determine the appropriate grade.

2. Turf Areas**:** For all TURF planting areas ***outside of tree protection zones,*** Class "C" on-site ("native") topsoil shall be scarified and cultivated to a uniform, finely divided condition to a depth of 12 inches. Soil shall not be worked when it is so wet as to cause excessive compaction to cause the formation of large clods; or so dry as to create excessive dust. All soil amendments shall then be broadcast evenly at the rate as specified below (or per the recommendations of the approved agricultural suitability and fertility analysis if directed by the PROJECT MANAGER), and then thoroughly and uniformly incorporated to the depth of 12 inches. Prior to planting, the top 3 inches of all planting areas (including slopes) shall be free of weeds, stones and other deleterious matter 1-inch diameter and larger.

a. All turf planting areas shall receive the following soil amendments per 1,000 square feet:

4 cubic yards, Type I organic soil amendment
15 lbs. Agricultural Gypsum
50 lbs. Gro-Power Plus fertilizer

b. Topsoil shall be restored to a smooth finish grade after amendment process is complete and irrigated thoroughly to activate amendments and fertilizers.

3. For individual tree and shrub planting outside of designated bulk soil amendment areas, backfill shall be 100% Class "C" on-site ("native") topsoil uniformly amended with GRANULAR HUMIC ACID SOIL CONDITIONER at the rate specified below:

15 gallon: 1/2 cup (US) per plant
24" box: 2 cups (US) per plant
36" box: 6 cups (US) per plant
48" box: 10 cups (US) per plant

4. CONTRACTOR shall furnish the CITY Inspector with delivery tickets to verify the source, kind and quantities delivered and applied. Furnish PROJECT MANAGER duplicate copies of the material invoices as required in Subsection 1.2 (C).

C. Finish Grading:

1. Make finish grade smooth, uniform and free of abrupt grade changes and depressions to insure proper surface drainage.

2. Finish grade below adjacent paving, curbs or headers shall be 1.5 inches in shrub or ground cover areas and 3/4 inch in sodded lawn areas.

3. Water soil after spreading of fertilizer and/or soil conditioning materials and allow it to settle to provide a stable surface. After the soil has dried out to a workable condition, regrade, rake and smooth to the required grades and contours, eliminating any erosion scars. Finished surfaces shall be clean and suitable for planting.

4. Finish grading shall insure proper drainage of site. Surface drainage shall be away from all building foundations at a minimum of 2% or in accordance grades shown on Contract Drawings.

5. Turf Areas**:** Finish grading of turf areas shall take place after the soil has dried out to a workable condition following the soil preparation operations. The soil shall be remodeled and smoothed to the required grades and contours, then rolled in two directions at right angles with a water ballast roller weighing 200 to 300 pounds maximum. Any resulting irregularities in the grade after the initial rolling shall be re-raked, cut or filled, then re-rolled until the grade is free from irregularities. No trucks, tractors or other heavy objects shall be taken over the areas at any time. The final finish grade shall be smooth, uniform, without abrupt changes in grade, within one-tenth of a foot of the grades shown on the plan. No turf areas shall exceed 5:1 slope. Final grade must be approved by the ENGINEER or BCA Inspector prior to seeding or sodding. (801-2.3).

3.3 WEED ABATEMENT

A. General: Unless specified otherwise, weed abatement shall apply to all planting areas. The abatement operation shall commence before planting but only after removals, grading, hardscape construction, installation of irrigation system, soil preparation, and fine grading of planting areas have been completed.

B. All herbicides for weed control shall be applied with a photosensitive dye which will produce a contrasting color when sprayed upon the ground. The dye shall be applied in a manner so as not to leave any stain upon finished surfaces.

C. The following precautions shall be observed in handling and applying herbicides:

1. Before applying, the CONTRACTOR shall read and understand all instructions provided by the manufacturer.

2. Herbicide product shall not be used when winds are gusty or in excess of 8 miles per hour, or when any other conditions exist which would result in drift. DO NOT USE any combinations of pressure and nozzle type or adjustment that result in misting.

3. Do not apply during rain, or if rain is forecast within twelve hours. If rain occurs within a twelve-hour period after application, material must be reapplied after application area has sufficiently dried out.

4. CONTRACTOR shall observe extreme care not to allow spray to contact plant material designated to remain, or in adjacent areas. Use cardboard, plywood, or other appropriate material to shield plant materials outside of the treatment area from overspray.

5. Do not apply to bare ground.

D. Herbicide Application: Pesticides must be applied by a licensed Pest Control Applicator in accordance with the requirements of the California Food and Agricultural Code and specified herein. The CONTRACTOR shall abide by all laws and codes governing weed abatement operations including but not limited to CAL-OSHA requirements and The Healthy School Act of 2000 (AB2260). Prior to herbicide application CONTRACTOR shall:

1. Notify the PROJECT MANAGER a minimum of 72 hours in advance of each application of pesticide/herbicide and shall indicate the hours during which the application will occur. No applications shall be made on Saturdays, Sundays, or legal holidays, unless otherwise prior approval by the PROJECT MANAGER in writing.

2. Notify the Pest Management Supervisor of the RAP Forestry Division at (213) 485-4826. Do not add other products to any herbicide mix, including spreader, stickers, or surfactants, unless required by the label directions and approved by the RAP Pest Management Supervisor.

3. Submit to the BCA Inspector and to RAP Forestry a "Pest Control Recommendation Form" prepared by a licensed Pest Control Advisor, and a provide completed and accurate SDS (Safety Data Sheet) to be kept at the site of application. The area of application shall be posted as such and barricaded for public safety and information (site construction fencing is deemed adequate for this purpose when present).

4. Any questions regarding pesticide application and procedures at Recreation and Parks facilities shall be directed to the PROJECT MANAGER/BCA Inspector and the RAP Forestry group, Vegetative Management at (213) 485-4826.

E. "Grow and Kill" method: The CONTRACTOR shall adhere to the following steps:

1. Clear and grub the surface of the designated planting area by mechanical means or by hand, removing all surface vegetation (excepting any trees, shrubs or turf designated to remain per plans and notes), rocks, debris, etc. Do not disturb the roots or compact soil around any existing vegetation to remain or within designated Tree Protection Zones, and do not remove any topsoil during clearing work.

2. "Grow Period": Water all planting areas daily or as needed to keep soil evenly moist and promote weed germination and growth for a period of a minimum of ***two weeks***. If, in the opinion of the ENGINEER the "Grow Period" irrigation was insufficient to achieve adequate germination, the "Grow Period" may be extended in minimum 7-day intervals at no additional expense to the CITY.

3. "Kill Period": At the conclusion of the grow period and approval by the ENGINEER, treat all emergent weeds within the planting area with approved herbicide per the submitted and approved "Pest Control Recommendation Form" following the manufacturer's instructions and labelling - *taking care to protect all trees, shrubs, turf etc. designated to remain*. If nutsedge (nutgrass) is determined to be present in any of the planting areas by the ENGINEER during the "Grow Period", CONTRACTOR will be required to apply a separate selective herbicide manufactured specifically for the control of nutsedge at no additional cost to the CITY until nutsedge is completely eradicated.

4. After spraying, do not water or otherwise disturb treated areas for a minimum period of two (2) weeks.

5. After the two-week kill period, remove all dead vegetation. If any living plants are observed, the entire plant, including roots, shall be removed by hand, minimizing physical disturbance of the soil.

F. Herbicide Damage: New and/or existing plants which in the opinion of the ENGINEER have been damaged, disfigured, or stunted by the application of herbicide shall be replaced in kind (type, size, and age) by the CONTRACTOR at their expense.

3.4 PLANTING

A. General**:** All plant materials, including plants previously approved at the nursery, shall be inspected by the ENGINEER prior to planting. The CONTRACTOR shall be responsible for the condition of all plants, planted or otherwise, until final acceptance by the CITY and termination of maintenance and establishment period. CONTRACTOR shall be obligated to honor all requirements of warranty as indicated herein.

1. Perform planting with materials and equipment according to procedures favorable to the optimum growth of the plant. Do not plant during high wind conditions.

2. Except as noted for specimen planting, do not start planting operations until the completion of weed suppression and completion and acceptance of the irrigation system

3. Large boxed trees may be planted prior to hardscape installation or irrigation completion to facilitate construction and avoid damage to completed work with written approval from the PROJECT MANAGER. CONTRACTOR shall re-route irrigation lines in conflict with boxed tree locations to clear the root ball by 24" minimum at no additional cost to CITY.

B. Protection and Storage:

1. Keep all plant materials delivered to the jobsite in a healthy condition for planting. Do not crowd containers together in a manner that adversely affects plant foliage or growing conditions.

2. Do not allow plants to dry out or suffer physical damage from other construction activities. Protect from heavy winds.

C. Layout and Plant Locations:

1. Plant locations indicated on the Contract Drawings are approximate.

2. CONTRACTOR shall lay out each plant in its intended planting location as shown on the plan while the plant is still in the container and obtain approval of the layout from the ENGINEER ***prior to installation***.

3. Prior to planting, the CONTRACTOR may be directed to alter the layout of plants by direction of the ENGINEER, without additional compensation to the CONTRACTOR.

4. For "on center" plant spacing, locate the first row of plants in areas designated at one-half the specified spacing from the edge. Do not stretch the maximum specified spacing for each species as shown on the plans.

D. Container Plants Backfill Mix:

1. Unless specified otherwise or recommended by the approved agricultural suitability and fertility analysis and approved by the PROJECT MANAGER, container plants shall be backfilled with 100% amended site soil.

a. Each plant pit shall also receive Tri-C Myco Tabs 1.7 gram 17-9-5 (N-P-K) planting tablets as shown in the relevant planting details, and as follows:

Container Size
1 gallon = 1 tablet
5 gallon = 1 tablet
15 gallon = 16 tablets
Boxed Trees = 10 tablets per inch of trunk diameter, with a minimum of 20 tablets per tree.

b. Some plant species may be designated not to receive any planting tablets. Refer to legend on Planting Plan.

E. Tree and Shrub Planting:

1. Prior to planting, irrigation system installation and soil amendment shall be completed and approved. Soil shall be thoroughly irrigated beforehand, and suitably moist for planting. ***Do not plant in dry or waterlogged soil.***

2. Make planting holes approximately square with vertical sides ***no greater than the depth of the plant container*** (or such depth as needed so that the root crown has the correct relationship to adjacent finished grade per the planting details) and approximately twice the width of the plant container or rootball and larger if necessary to permit handling and planting without injury to the root system. Lightly scarify native soil at the bottom of planting holes.

3. Open and remove plant containers in such a manner that the plant roots are not injured. Do not pull plants out of the pot by the stalk. Do not plant plants with a broken or cracked rootball. Such plants shall be considered defective and rejected. Rejected plants shall be removed promptly from the job site.

4. Scarify native soil at the bottom of planting holes.

6. If soil is not adequately moist, apply water to planting hole and allow to drain. Set the plant approximately in the center of the planting hole and add backfill under rootball if needed to adjust the root crown to correct grade.

7. Backfill the balance of the planting hole with moist, amended site soil; firming the backfill by hand or with tools to assure all air pockets have been removed, and settlement will be minimized. After planting, all plants shall be plumb with the root crown at its natural depth with respect to finish grade.

8. Prune or remove any broken or damaged minor limbs. Any major damage to plant material shall be brought to the attention the ENGINEER for evaluation. Trees or shrubs with major broken limbs shall be considered defective and rejected. Rejected plants shall be removed promptly from the job site.

9. For any trees installed prior to completion of irrigation system: form a circular watering basin 6-inches high and slightly larger than the planting hole to accommodate temporary hand watering. Make the bottom of the basin level with surrounding finish grade. Watering basin berms shall be removed during fine grading process and before application of top-dress mulch.

10. Tree Edging: Where trees are planted in lawn area, a minimum 4-foot diameter circle around each tree shall be maintained free of lawn area to avoid the growth-reducing effects of lawn area on trees. Mulch shall be placed in the circle. This circle shall be kept clear of lawn area by the CONTRACTOR for the duration of the maintenance period.

11. Install vines per planting detail. Remove nursery stakes and affix all branches to walls or fences per notes and details on Contract Drawings.

F. Turf Planting: Soil amendment, irrigation installation, weed abatement, and fine grading shall be completed and approved before sod installation.

1. Sod Planting: The type of sod and the area to be sodded shall be in accordance with the Contract Drawings. Sod shall be machine cut to between 3/8" and 5/8" thick, not including top growth or thatch.

a. Site shall be fine graded to the specified thickness of the sod below finish grades. Soil conditioning and fine grading shall be completed before sodding. No heavy equipment shall operate over the site after grading is completed.

b. The soil shall be moist but not wet when sod is laid. Sod shall be laid with closely fitted joints, and the ends of the strips shall be staggered forming a running bond pattern. Openings shall be plugged with sod or topsoil. Within 2 hours after installing sod and before rolling, the sod shall be lightly irrigated. All seams and joints shall then be rolled with a 200-300 lb. water ballast roller until the sod is well bonded to the soil below.

c. The sodded areas shall then be watered thoroughly to penetrate the subsoil at least 8 inches. Watering shall be repeated as necessary to keep the sod moist until rooted into the subgrade. Sodded areas shall be protected against all traffic until the sod is well established.

BUREAU OF ENGINEERING
OFFICIAL RECORD

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SHEET ISSUE DATE: 8/24/2021 2:17 PM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPEDESIGN\WORKING_DRAWINGS\XREFS\SHELDON_ARLETA_TTLB_BLOCK.DWG

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
REVISION DESCRIPTION

NO.	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

ENGINEERING
CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

LANDSCAPE ARCHITECT
No. 3940
Registration Expires
10-31-21
Wednesday, June 16, 2021
04-05-21
Date
STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
LANDSCAPE ARCHITECT : JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES SHEET 10

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L010
SHEET 17 OF SHEETS 74

PLOTTED: 8/24/2021 2:18 PM

3.5 TREE STAKING AND GUYING

A. Tree Staking: See planting legend for what type of staking shall be used for each tree type, if any shall be used. Stake trees with 2" diameter x 10' long lodgepole pine stakes as indicated on the Drawings and details.

1. After planting, all trees shall be re-staked promptly per details.
2. Remove any existing nursery stakes first before installing new lodgepole stakes.
3. All trees in turf areas shall be triple staked unless noted otherwise. Stakes shall be placed in a circular pattern around tree, evenly spaced 1/3 circle apart.
4. All trees in non-turf areas shall be double staked, unless noted otherwise. Align stakes with the direction of strongest seasonal winds.
5. DO NOT drive stakes into the rootball of any newly planted trees.

3.6 MAINTENANCE AND PLANT ESTABLISHMENT

A. General Maintenance: Maintain all areas of work on a continuous basis as they are completed ***during the progress of the work and during the plant establishment period***.

1. CONTRACTOR shall maintain the entire area of work until final acceptance of the Contract by the CITY. Maintenance activities shall include continuous operations of picking up trash, watering, weeding (including all broadleaf weeds in lawn areas), mowing, rolling, edging, fertilization, spraying & pest control of insects and rodents, reseeding & plant replacement (irrespective of cause), or any other operations necessary to provide normal healthy plant growth.
2. Any malfunctions of, or damage to the irrigation system due to workmanship or materials or as caused by the CONTRACTOR in the execution of his work shall be repaired by the CONTRACTOR within 24 hours at his own expense. The CONTRACTOR is responsible for keeping all plant material sufficiently watered during any irrigation failures.

B. Plant Establishment Period:

1. The Plant Establishment Period shall be for a minimum period of **90** days unless extended as described in this section. The Plant Establishment Period shall be started when all planting and irrigation related work has been completed in accordance with the contract documents and approved by the PROJECT MANAGER. CONTRACTOR shall request a review of completed work by the PROJECT MANAGER at the appropriate time to determine if the Plant Establishment period may begin. A field notification will be issued to the CONTRACTOR to establish the effective beginning date of the plant establishment period.
2. The designated plant establishment period is part of the total contract time. The plant establishment period will be extended at fourteen (14) day intervals if, at the end of the plant establishment period, the planting, irrigation and other improvements do not reflect the intent of the plans and specifications. All extensions of the plant establishment period shall be subject to the assessment of liquidated damages, (801-6).
3. All lawns shall be of the grass seed or sod specified and shall be free from all broadleaf weeds. The lawn shall not be allowed to grow higher than three (3) inches and shall be mowed to a 1½" - 2" inch height. The lawn shall be mowed at least weekly during the Plant Establishment Period. All lawn areas shall have 95 percent coverage with bare areas not exceeding three square inches at the end of the Plant Establishment Period. **60 days** after commencement of Plant Establishment Period, CONTRACTOR shall apply a slow release 38-0-0 granular fertilizer at a rate of 15 pounds per 1000 sq. ft. (or per manufacturer's instructions) to all lawn areas and irrigate immediately afterwards. The fertilizer shall be applied in the presence of the BCA Inspector.
4. All trees and shrubs shall be healthy and vigorous in appearance throughout the duration of the Plant Establishment Period. Upon notice from the PROJECT MANAGER, the CONTRACTOR shall replace within seven (7) days of such notice at his own expense, any and all plant materials and/or sod which, for any reason dies or is damaged while under the CONTRACTORS care, or does not meet or exceed the quality of appearance and growth condition at the time of planting. Replacement shall be made with the same plant species and varieties as indicated or specified for the original planting. All replacement plants are subject to the same inspection requirements set forth in these specification for the original plant installation.
5. During the plant establishment period, all damage caused by erosion shall be repaired by the CONTRACTOR at his own expense within three (3) working days.
6. Broken or vandalized tree stakes shall be repaired or replaced by the CONTRACTOR at his own expense within seven (7) days.
7. During the plant establishment period, the irrigation system shall be operated in the automatic mode, unless otherwise permitted by the ENGINEER. No hand watering or manual station operations should be performed without notifying the ENGINEER. CONTRACTOR shall be responsible for setting an appropriate watering schedule for all irrigation zones, such as to provide adequate watering for each plant type, but not so much as to create any wasteful or unhealthful growing conditions. CONTRACTOR shall be responsible for modifying the watering schedule as needed to accommodate changing weather conditions.

C. Final Inspection/Final Acceptance:

1. Upon completion of the plant establishment period, a final inspection for acceptance will be performed by the BCA Inspector, PROJECT MANAGER and ENGINEER and authorized RAP representative. The CONTRACTOR shall request inspection at least three (3) working days prior to the anticipated date. For this inspection, the site must be thoroughly cleared of all debris and excess material removed. If work fails to pass final inspection, any subsequent inspection must be rescheduled as per above, and time will be charged to the CONTRACTOR.
2. If the plant establishment period is satisfactorily completed ahead of other work included in the Contract, the plants establishment shall be extended and shall be the responsibility of the CONTRACTOR until all other work has been completed and accepted by the CITY.

3.7 GUARANTEE

A. General: All shrubs and ground covers shall be guaranteed for a period of ninety (90) days from the end of the Plant Establishment Period. All trees and shrubs 15-gallon size or larger shall be guaranteed for a period of one (1) year from the end of the Plant Establishment Period. CONTRACTOR shall provide a written guarantee for the above materials as a part of the final close out package.

B. Deficiencies: Should any deficiencies develop within the specified guarantee period, CONTRACTOR shall correct such deficiencies to the full satisfaction of the ENGINEER without added expense to the CITY. All replacement plants shall be subject to a new guarantee for a period as described herein above.

3.4 REPAIR OF DAMAGED AREAS OR INSUFFICENT COVERAGE

1. Any damaged area shall be repaired utilizing the exact blend and application procedure as specified above.
2. Any areas of bare soil larger than 24" x 24" shall be repaired utilizing the exact seed blend and application procedure as specified.

16. HYDROMULCHING

PART ONE - GENERAL

1.1 DESCRIPTION

A. Work Included:

All labor, materials, equipment, and tools necessary to provide and execute application of hydromulch as indicated on the Contract Drawings, specified herein.

1.2 SUBMITTALS

A. Product Data: Within 35 calendar days after the Contractor has received the City's "Notice to Proceed", submit:

1. Materials list of items proposed to be provided under this Section and other related Sections;
2. Manufacturer's Specifications and other data needed to prove compliance with the specified requirements;
3. Manufacturer's recommended installation procedures which, when approved by the City Engineer or the Consultant, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 INSPECTION

A. Required:

All work shall be done in the presence of the BCA Inspector.

1.4 COORDINATION

A. Required: All on-site storm drain work shall be fully coordinated with other Contracted Work operations as per approved work scheduled.

PART TWO - PRODUCTS

2.1 MATERIALS

A. Materials

1. Hydromulch fiber: shall consist of virgin wood fiber of aspen or alder. It shall not contain any wastepaper, newsprint or straw material. The mulch shall contain a green dye to facilitate application. Fiber shall be as manufactured by conwed co., (green tag), Silva-fiber by Weyerhauser co. (212-1.2 (e)). Apply at the rate of 2000 lb/acre.
2. Hydromulch binder: shall consist of natural muciloid materials supplied by Ecology Controls M-binder, (805) 684-0436. Apply at the rate of 150 lb/acre
3. Hydroseeding mixture: Seed mixture shall be of the types specified and applied in the areas indicated on the planting plan. Seed shall be labeled by the vendors supplying the seed and shall indicate the purity, germination and pure live seed content as determined by testing. Seed shall have been tested for purity and germination not more than 12 months prior to the application of the seed. Seed, wood fiber, binders, and fertilizer shall be as specified and as supplied by S&S seed (805) 684-0436, unless otherwise noted.
4. The CONTRACTOR shall supply a delivery receipt to the BCA inspector certifying conformance with the specified hydroseed mix and indicating that the slurry has not been mixed for longer than two hours. Slurry that has been mixed longer than two hours shall be recharged with 50 percent more of the specified seed mix, at the CONTRACTOR's expense, (308-4.8.2(b)). Delivery tickets shall be forwarded to the PROJECT MANGER/BCA inspector.

PART THREE - EXECUTION

3.1 GENERAL

A. The hydromulching work shall not be performed at any time when it may be subject to damage by climatic conditions.

B. Delivery of material shall begin only when it is ready for the work and after the Irrigation system has been reviewed and approved by the ENGINEER. All materials furnished for the work shall be not less than the approved submittal.

3.1 SOIL PREPARATION

See Section LANDSCAPE PLANTING for soil preparation and finish grading requirements.

3.2 MIXING

The slurry shall be prepared by mixing fiber mulch, seed, fertilizer, binder and water in the mixer in the proper proportions specified. The materials shall be loaded into the mixer and mixed in such sequence as to provide a thoroughly mixed, homogeneous slurry. The slurry shall have the proper consistency to adhere to the earth slopes without lumping or running. Seed mixtures shall be thoroughly pre-mixed prior to being added to the slurry.

3.3 APPLICATION

The soil to which the hydromulch slurry shall be applied to must be graded to remove any pre-existing rills and shall be compacted to meet project specifications.

1. Hydromulch slurry shall be applied by a qualified applicator at the rates specified below for turf areas or erosion control seeding evenly over the entire area to be treated. Caution should be taken to avoid creating puddles or runoff. The blend must be sprayed from multiple directions and angles to ensure complete and proper coverage. Treated areas shall not be disturbed after application.
2. Hydromulch slurry shall be applied a minimum of 24 hours prior to or following a storm event.

BUREAU OF ENGINEERING
OFFICIAL RECORD

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

I LD: LENPLA IE REVISION DATE: 12/2/13
SHEET ISSUE DATE: 8/24/2021 2:17 PM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\XREFS\SHELDON_ARLETA_TTLB_BLOCK.DWG

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
RICHARD FISHER
No. 3940
10-31-21
Registration Date
04-05-21
Date
STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES
SHEET 11

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L011
SHEET 18 OF SHEETS 74

PLOTTED: 8/24/2021 2:18 PM

TREE PROTECTION - EXISTING TREES:

All trees to remain in place shall be protected using the following guidelines:

TREE PROTECTION SPECIFICATIONS

These tree protection specifications shall be followed to protect all trees whose dripline is encroached upon either directly or indirectly by construction within City parks.

ANY FAILURE BY THE CONTRACTOR TO ADHERE TO THE REQUIREMENTS SPECIFIED BELOW WILL RESULT IN THE SUSPENSION OF ALL CONSTRUCTION ACTIVITIES, TO BE DONE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF OR PAYMENT FOR ANY TREES DAMAGED THROUGH NON-COMPLIANCE WITH THESE SPECIFICATIONS. THE MONETARY OR REPLACEMENT VALUE OF IMPACTED TREES WILL BE DETERMINED BY A RECREATION AND PARKS (RAP) ARBORIST OR BY A RAP APPROVED ISA CERTIFIED ARBORIST.

A Recreation and Parks Arborist shall be invited to the Job Start Meeting and also notified 48-hours prior to construction. Contact Steve Dunlap (213) 485-4826.

All trees that occur within the area of work, as shown on the plans, and *NOT* specifically designated for removal, shall be protected by the following means:

1. **Defining the Tree Protection Zone (TPZ)** - The **radius** (not the diameter) of the TPZ, measured from the outside of the tree trunk, shall be calculated according to the following:
   a. **Single trunk trees -** multiply the trunk diameter in inches, measured 4.5' above grade, by 1.5 feet.
   b. **Multi trunk trees -** multiply the sum of the diameters of all trunks in inches, measured 4.5' above grade, by 1.5 feet.
   c. **Palm trees -** 5' from the base of the trunk.
   d. **If a TPZ is delineated on the plans, the size and shape shown on the plans shall supercede the above requirements.**
   e. Before beginning any excavation or demolition work, the contractor shall install a 5' high temporary chain link fence with one pedestrian access gate along the boundary of the TPZ. See plans and details for temporary chain link fence location and installation.
   f. The contractor shall provide one sign per each 20 lineal ft. of fence surrounding the TPZ indicating that fencing shall not be removed. See TPZ sign detail.
   g. No work is permitted within the TPZ without the approval of: 1) the project Landscape Architect, 2) the Project Manager, and 3) RAP Forestry staff. Any work authorized by RAP Forestry staff within the TPZ must be done in accordance with the recommendations of RAP Forestry and under the supervision of a Monitoring Arborist. The Monitoring Arborist shall be supplied by the Contractor at his own expense, and be an ISA Certified Arborist or a Registered Consulting Arborist with verifiable experience in protecting trees. The Monitoring Arborist must be approved by RAP Forestry prior to commencement of work.
   h. Within the TPZ, the contractor shall adhere to the following requirements, including, but not limited to:
      - No stockpiling or storage of any material, debris, or soil.
      - No storage of any construction equipment.
      - No vehicular access.
      - No un-approved trenching, excavation or disturbance of soil will be allowed.
      - No objects of any kind shall be attached to tree trunks.
      - For any approved excavation or trenching, no cutting of roots over 2" diameter will be allowed. Contractor shall use a pneumatic drill (a.k.a. "air spade") to excavate under woody roots larger than 2" in diameter. If any roots are unintentionally severed, remedial cuts are to be made under the supervision the Monitoring arborist, and soil backfilled immediately.

2. Within the boundaries of the construction zone (including the TPZ), the contractor shall be responsible for mitigating construction-related dust accumulation on all trees by spraying the trunks, limbs, and foliage with water to a maximum height of 30 feet during the months of April through November, at monthly intervals.

3. Beyond the TPZ, the contractor shall also be responsible for protecting all existing trees to remain in place within the boundaries of the construction zone, including vehicular access areas, lay down areas, and any other areas impacted by construction activities. Any damage to trees in these areas shall also be subject to the same monetary or replacement requirements specified below. Any necessary root cutting in this area must be approved in advance by either RAP Forestry or by a RAP approved ISA certified arborist employed by the Contractor. See also the General Conditions for any damage done by the contractor to landscaping or other park amenities that fall outside the boundaries of the construction zone.

4. Irrigation to all existing trees NOT specifically designated for removal shall be kept in operation for the duration of the project. Contractor shall be responsible for hand watering all impacted trees if necessitated by temporary shutdowns to or demolition of existing irrigation systems. Trees are to be irrigated deeply and as often as required such that soil moisture is detectable at a minimum depth of 18" using a soil probe.

5. Upon completion of all trenching, grading, excavation and soil preparation work, contractor shall remove all items installed to protect trees during the construction process with approval of the Project Manager.

6. Any of the following Southern California native tree species fall under Ordinance No. 177404 of the Los Angeles Municipal Code:
   a. Oaks, including Valley Oak (*Quercus lobata)*, California Live Oak (*Quercus agrifolia),* or any other tree of the oak genus indigenous to California but excluding Scrub Oak *(Quercus dumosa);*
   b. Southern California Black Walnut *(Juglans californica* var. *californica);*
   c. Western Sycamore *(Platanus racemosa);*
   d. California Bay *(Umbellularia californica).*
   e. Contractor shall comply with the requirements of the ordinance found at: http://cityplanning.lacity.org/Code_Studies/Other/ProtectedTreeOrd.pdf.

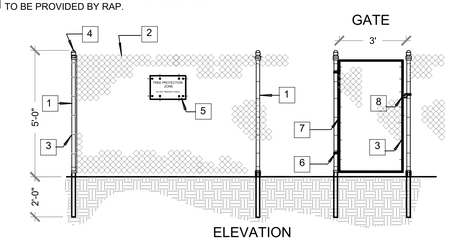
DAMAGES

If a tree that is designated to remain is removed or caused to be irreversibly damaged as determined by the Recreation and Parks Arborist, install a replacement tree matching in size, quality and variety using an installer designated by the Recreation and Parks Arborist. If an acceptable replacement tree is not available, pay damages to the City for the value of the damaged tree as assessed by the tree value formula in the ISA Guide for Establishing Value of Trees and Other Plants.

BUREAU OF ENGINEERING
OFFICIAL RECORD

FENCING MATERIALS

1. POSTS: O.D., LINE POSTS 2-3/8 IN. O.D. POST SPACING TO BE 10'-0" MAX. POSTS TO BE DRIVEN 2' BELOW RELATIVE GRADE.
2. FABRIC: 9 GAUGE, 2 IN. MESH, KNUCKLE TOP AND BOTTOM, PLACE ON OUTER SIDE OF POST.
3. TIE WIRES: 11 GAUGE AT 12" O.C.
4. POST TOPS MALLEABLE IRON OR PRESSED STEEL.
5. 24"x18" SIGN. ATTACH WITH TIE WIRES. SIGN TO BE PROVIDED BY RAP.
6. HINGES: INDUSTRIAL BULLDOG HINGE (180 SWING) 2 HINGES PER GATE, ONE TOP AND ONE BOTTOM.
7. GATE FRAME: SIDES, 2-3/8" DIA
8. LOCKABLE CAST ALUMINUM FORK LATCH POST TOPS MALLEABLE IRON OR PRESSED STEEL.



NOTES:
1. CHAIN LINK FENCE MATERIALS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE LANDSCAPE CONSTRUCTION NOTES.
2. THE BOTTOM OF THE FABRIC SHALL BE POSITIONED ONE INCH ABOVE FINISH GRADE.
3. PROVIDE FOR ONE 3' WIDE GATE PER ENCLOSURE.
4. ALL FENCING TO HAVE A STANDARD GALVANIZED FINISH.

A13 | 5' HIGH TREE PROTECTION FENCE
N.T.S. | RP DETAIL 500.1

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CITY OF LOS ANGELES ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LIC. NO.: 3940 DATE:

LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

JANE M. ADRIAN — LANDSCAPE ARCHITECT — No. 3940 — 10-31-21 Renewal Date — 04-05-21 Date — STATE OF CALIFORNIA

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: TREE PROTECTION NOTES/DETAIL

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L100
SHEET 19 OF SHEETS 74

PLOTTED: 8/24/2021 2:37 PM

REVISION DATES (DESIGN STAGE ONLY)

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:00 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L100 TREE PROTECTION.DWG

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

DEMOLITION NOTES:

1. CONTRACTOR SHALL MEET WITH PROJECT MANAGER TO REVIEW EXISTING ELEMENTS TO BE DEMOLISHED/PROTECTED PRIOR TO COMMENCEMENT OF WORK.
2. ALL REMOVED MATERIAL SHALL BE PROPERLY DISPOSED OF AT AN APPROPRIATE LOCATION OFF-SITE. ALL DISPOSAL SHALL BE IN ACCORDANCE WITH CODES AND ORDINANCES GOVERNING LOCATIONS AND METHODS OF DISPOSAL.
3. LOCATIONS OF EXISTING EQUIPMENT ARE SHOWN FOR THE LEGIBILITY OF THE DRAWING. THE CONTRACTOR SHALL VERIFY EXACT LOCATION FROM SITE SURVEY OR IN THE FIELD. CONTRACTOR SHALL IMMEDIATELY BRING TO THE ATTENTION OF THE PROJECT MANAGER ANY CONFLICTS.
4. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 48 HOURS IN ADVANCE BEFORE START OF CONSTRUCTION (DIAL 811) AND OBTAIN AN UNDERGROUND SERVICE ALERT INQUIRY I.D. NUMBER BY CALLING 1-800-422-4133.
5. EXISTING UNDERGROUND UTILITIES/METHANE EXTRACTION LINES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE SPECIFIED PER PLAN. THE LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL ASCERTAIN THE TRUE VERTICAL AND HORIZONTAL LOCATION AND SIZE OF ANY UNDERGROUND UTILITIES PRIOR TO EXCAVATION AND SHALL BE RESPONSIBLE FOR DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES, SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ANY NECESSARY ADJUSTMENTS TO ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENTS REQUIRED TO AVOID EXISTING UTILITIES.
6. THE CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH DEMOLITION AS SHOWN ON PLANS WHEN IT IS OBVIOUS THAT CONDITIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.
7. ALL EXISTING SITE ELEMENTS (INCLUDING BUT NOT LIMITED TO LIGHTING STANDARDS, TRAFFIC SIGNS, ELECTRICAL PULLBOX, CATCH BASIN, WATER METER, DWP WATER VALVES, POWER POLE & GUY WIRE, IRRIGATION CONTROL BOX, CONCRETE CURBS) NOT INDICATED ON PLAN FOR REMOVAL SHALL BE PROTECTED IN PLACE.
8. EXISTING STRUCTURES AND SUBSTRUCTURES WHICH ARE INDICATED TO BE REMOVED IN THIS CONSTRUCTION DOCUMENT SHALL BE TOTALLY REMOVED AND DISPOSED OF OFFSITE, UNLESS OTHERWISE INDICATED. UNDOCUMENTED EXISTING FACILITIES WHICH ARE DISCOVERED DURING CONSTRUCTION (INCLUDING WALLS, FOOTINGS AND FOUNDATIONS) SHALL BE REPORTED TO PROJECT MANAGER AND COORDINATED IN ADVANCE AS TO THEIR REMOVAL. CONTRACTOR WILL NOTIFY THE CITY IN WRITING PRIOR TO COMMENCING THE WORK.
9. ALL COMPONENTS OF ADJACENT IRRIGATION SYSTEMS WHEN PRESENT (VALVES, HEADS, LATERALS, CONTROL WIRING, ETC.) SHALL BE PRESERVED AND RETAINED. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ADJACENT IRRIGATION SYSTEMS AND SHALL REPAIR AT NO COST TO THE CITY.
10. ALL ADJACENT IRRIGATION SYSTEMS, WHEN PRESENT, SHALL REMAIN OPERABLE DURING ALL PHASES OF CONSTRUCTION, INCLUDING DEMOLITION. IF IT CANNOT BE KEPT IN OPERATION, CONTRACTOR SHALL BE RESPONSIBLE FOR MANUALLY OPERATION IRRIGATION SYSTEM OF HAND WATERING AS NEEDED TO MAINTAIN ALL EXISTING PLANTING IN NORMAL CONDITION.
11. SEE IRRIGATION PLAN FOR DISPOSAL OF EXISTING IRRIGATION HEADS AND VALVE BOXES, ETC. PROTECT IN PLACE ALL IRRIGATION SYSTEM COMPONENTS TO REMAIN, TYP.
12. TREES TO BE REMOVED SHALL BE TAGGED BY CONTRACTOR PRIOR TO DEMOLITION. CONTRACTOR SHALL REMOVE TREES AFTER REVIEW AND APPROVAL BY THE PROJECT MANAGER.
13. ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED IN PLACE PER TREE PROTECTION SECTION IN THE PROVIDED LANDSCAPE CONSTRUCTION NOTES. PROVIDE TREE PROTECTION FENCING PER DETAILS WHERE SHOWN ON PLANS.
14. EXISTING TURF AND SHRUBS DESIGNATED TO REMAIN SHALL BE PROTECTED IN PLACE. REPAIR ANY DAMAGE OR REPLACE AS REQUIRED PER LANDSCAPE CONSTRUCTION NOTES.
15. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH PROJECT MANGER TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. AFTER COMPLETION OF WORK, THE STAGING AREA SHALL BE RESTORED, BY THE CONTRACTOR, TO ITS ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION CONTACT IN THE FOLLOWING ORDER:

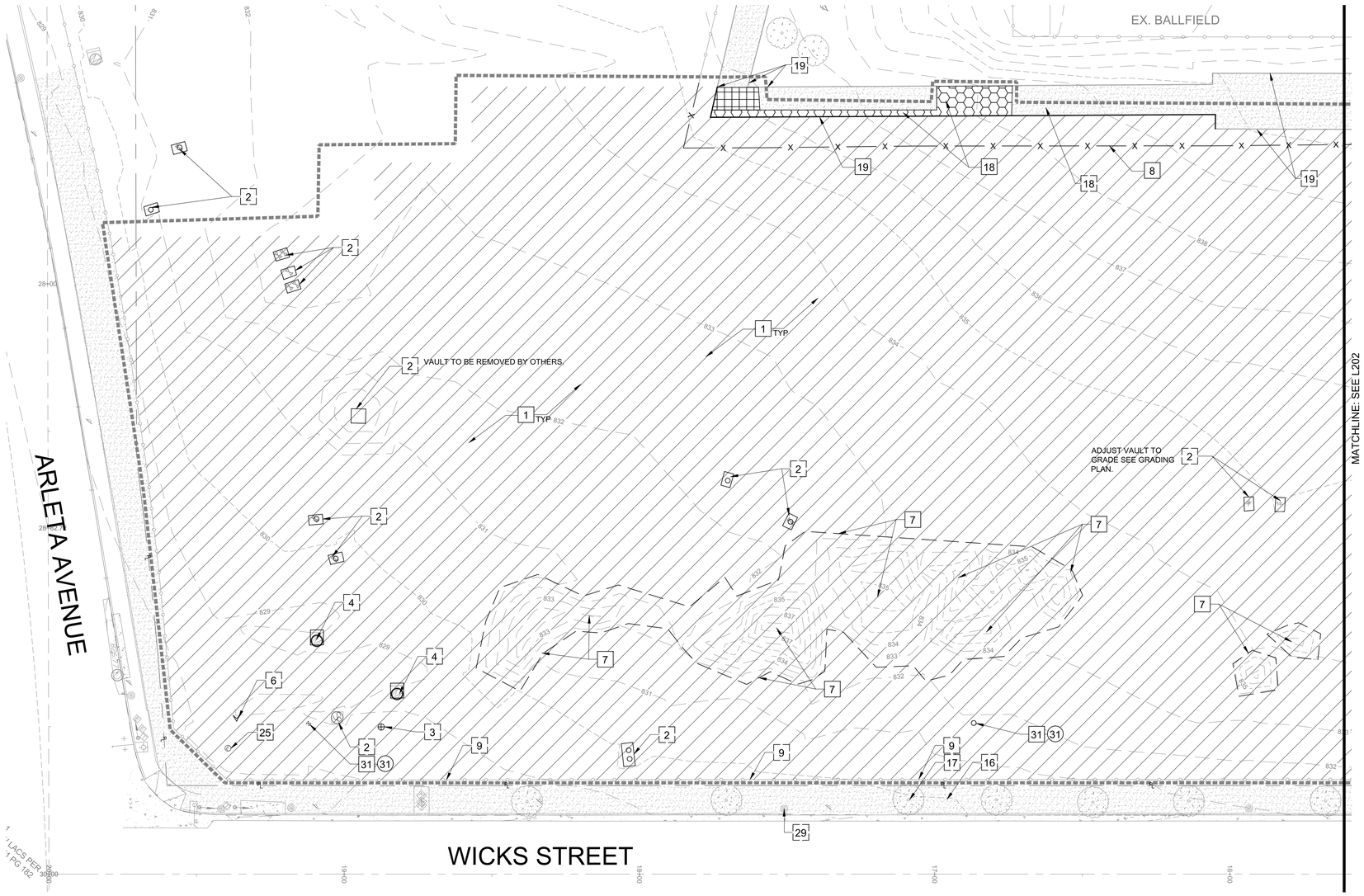
NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

DEMOLITION LEGEND:

- EXISTING CONCRETE TO REMAIN. PROTECT IN PLACE.
- REMOVE EXISTING CONCRETE AND DISPOSE OFF-SITE .
- CLEAR AND GRUB ALL SURFACE PLANTING, WEEDS, DEBRIS, ETC. IN THEIR ENTIRETY (UNLESS OTHERWISE NOTED).
- REMOVE 1.5"-2" OF EX. DECOMPOSED GRANITE PAVING AND DISPOSE OFF-SITE. MAY BE RE-USED ON-SITE WITH APPROVAL OF GEOTECHNICAL ENGINEER. (NEW DECOMPOSED GRANITE PAVING TO BE REINSTALLED TO MEET NEW GRADES)
- REMOVE EX. DECOMPOSED GRANITE PAVING AND DISPOSE OFF-SITE. (MAY BE RE-USED ON-SITE WITH APPROVAL OF GEOTECH ENGINEER)
- EX. DECOMPOSED GRANITE PAVING. PROTECT INPLACE.
- LIMIT OF WORK (OFFSET FOR CLARITY)
- EX. CHAINLINK FENCING TO REMAIN. PROTECT IN PLACE.
- EX. TUBULAR STEEL FENCING TO REMAIN. PROTECT IN PLACE.
- EX. CHAINLINK FENCE TO BE REMOVED AND PROPERLY DISPOSED OFF-SITE PER CITY DIRECTION.
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- # REMOVE AND PROPERLY DISPOSE OFF-SITE
- # EXISTING-PROTECT IN PLACE
- (#) # REMOVE AND RECONSTRUCT

KEYNOTES

1. CLEAR AND GRUB ALL SURFACE PLANTING, WEEDS, DEBRIS, ETC. IN THEIR ENTIRETY PER LANDSCAPE CONSTRUCTION NOTES.
2. LANDFILL EQUIPMENT, VAULT, STANDPIPE.
3. CATCH BASIN.
4. SIDE INLET CATCH BASIN.
5. STAND PIPE.
6. 16" PLASTIC PIPE W/FLARED END SECTION.
7. MISC. DEBRIS PILE (DIRT, CONCRETE, SAND). MATERIAL MAY BE REUSED ON SITE WITH PERMISSION OF GEOTECHNICAL ENGINEER OR WILL NEED TO BE REMOVED AND DISPOSED OFFSITE. CONTRACTOR SHALL REVIEW DEBRIS PILES PRIOR TO SUBMITTING BID.
8. 6' CHAINLINK FENCE. REMOVE UNDAMAGED AND RETURN TO RAP STAFF OR DISPOSE OFF-SITE PER CITY DIRECTION.
9. 8' CHAINLINK FENCE.
10. 8' CHAINLINK VEHICULAR GATE.
11. 8' CHAINLINK PEDESTRIAN GATE.
12. 8' TUBULAR STEEL FENCE.
13. BACKFLOW PREVENTER.
14. IRRIGATION VALVE BOX.
15. CURB AND CONCRETE GUTTER.
16. DECOMPOSED GRANITE SIDEWALK.
17. TREE.
18. DECOMPOSED GRANITE PAVING. REFER TO PLAN NOTES.
19. WOOD HEADER.
20. CONCRETE PAVING.
21. BALLFIELD FENCING.
22. BALLFIELD BLEACHER.
23. BALLFIELD TEAM BENCH.
24. LANDSCAPING/SHRUBS.
25. STORM DRAIN CLEANOUT.
26. CONCRETE HEADER.
27. AC PAVING.
28. MAINTENANCE HOLE/CATCH BASIN.
29. UTILITY POLE.
30. NOT USED.
31. LANDFILL PROBE. VAULT LID TO BE REPLACED PER DETAIL A13/L409 AND SET AT NEW GRADE PER GRADING PLAN. PROBE PIPING TO BE PROTECTED IN PLACE DURING DEMOLITION/GRADING OPERATIONS AND MODIFIED PER DETAIL A13/L409. RETURN EX. VAULT LID TO LA SANITATION.



BUREAU OF ENGINEERING OFFICIAL RECORD

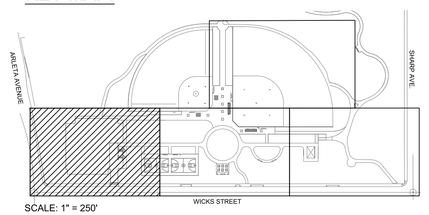
DIGALERT Call Toll Free 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert of Southern California

N

0 10' 20' 40'

SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

BUREAU OF ENGINEERING

REVISION DESCRIPTION | DATE | BY

NO.

INDEX NO. RP-300119

RAP FACILITY NO. 837

ENGINEERING — CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

	LIC. NO.: 3940	DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
ARCHITECTURAL DIVISION		
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: DEMOLITION PLAN SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L201
SHEET 20 OF SHEETS 74

PLOTTED: 8/24/2021 2:58 PM

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:00 PM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGNWORKING_DRAWINGS\L201-LXX DEMO PLAN.DWG

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

1 LACS PER 3 PG 182

DEMOLITION NOTES:

1. CONTRACTOR SHALL MEET WITH PROJECT MANAGER TO REVIEW EXISTING ELEMENTS TO BE DEMOLISHED/PROTECTED PRIOR TO COMMENCEMENT OF WORK.
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6. THE CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH DEMOLITION AS SHOWN ON PLANS WHEN IT IS OBVIOUS THAT CONDITIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.
7. ALL EXISTING SITE ELEMENTS (INCLUDING BUT NOT LIMITED TO LIGHTING STANDARDS, TRAFFIC SIGNS, ELECTRICAL PULLBOX, CATCH BASIN, WATER METER, DWP WATER VALVES, POWER POLE & GUY WIRE, IRRIGATION CONTROL BOX, CONCRETE CURBS) NOT INDICATED ON PLAN FOR REMOVAL SHALL BE PROTECTED IN PLACE.
8. EXISTING STRUCTURES AND SUBSTRUCTURES WHICH ARE INDICATED TO BE REMOVED IN THIS CONSTRUCTION DOCUMENT SHALL BE TOTALLY REMOVED AND DISPOSED OF OFFSITE, UNLESS OTHERWISE INDICATED. UNDOCUMENTED EXISTING FACILITIES WHICH ARE DISCOVERED DURING CONSTRUCTION (INCLUDING WALLS, FOOTINGS AND FOUNDATIONS) SHALL BE REPORTED TO PROJECT MANAGER AND COORDINATED IN ADVANCE AS TO THEIR REMOVAL. CONTRACTOR WILL NOTIFY THE CITY IN WRITING PRIOR TO COMMENCING THE WORK.
9. ALL COMPONENTS OF ADJACENT IRRIGATION SYSTEMS WHEN PRESENT (VALVES, HEADS, LATERALS, CONTROL WIRING, ETC.) SHALL BE PRESERVED AND RETAINED. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ADJACENT IRRIGATION SYSTEMS AND SHALL REPAIR AT NO COST TO THE CITY.
10. ALL ADJACENT IRRIGATION SYSTEMS, WHEN PRESENT, SHALL REMAIN OPERABLE DURING ALL PHASES OF CONSTRUCTION, INCLUDING DEMOLITION. IF IT CANNOT BE KEPT IN OPERATION, CONTRACTOR SHALL BE RESPONSIBLE FOR MANUALLY OPERATION IRRIGATION SYSTEM OF HAND WATERING AS NEEDED TO MAINTAIN ALL EXISTING PLANTING IN NORMAL CONDITION.
11. SEE IRRIGATION PLAN FOR DISPOSAL OF EXISTING IRRIGATION HEADS AND VALVE BOXES, ETC. PROTECT IN PLACE ALL IRRIGATION SYSTEM COMPONENTS TO REMAIN, TYP.
12. TREES TO BE REMOVED SHALL BE TAGGED BY CONTRACTOR PRIOR TO DEMOLITION. CONTRACTOR SHALL REMOVE TREES AFTER REVIEW AND APPROVAL BY THE PROJECT MANAGER.
13. ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED IN PLACE PER TREE PROTECTION SECTION IN THE PROVIDED LANDSCAPE CONSTRUCTION NOTES. PROVIDE TREE PROTECTION FENCING PER DETAILS WHERE SHOWN ON PLANS.
14. EXISTING TURF AND SHRUBS DESIGNATED TO REMAIN SHALL BE PROTECTED IN PLACE. REPAIR ANY DAMAGE OR REPLACE AS REQUIRED PER LANDSCAPE CONSTRUCTION NOTES.
15. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH PROJECT MANGER TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. AFTER COMPLETION OF WORK, THE STAGING AREA SHALL BE RESTORED, BY THE CONTRACTOR, TO ITS ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION CONTACT IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
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MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

DEMOLITION LEGEND:

- EXISTING CONCRETE TO REMAIN. PROTECT IN PLACE.
- REMOVE EXISTING CONCRETE AND DISPOSE OFF-SITE .
- CLEAR AND GRUB ALL SURFACE PLANTING, WEEDS, DEBRIS, ETC. IN THEIR ENTIRETY (UNLESS OTHERWISE NOTED).
- REMOVE 1.5"-2" OF EX. DECOMPOSED GRANITE PAVING AND DISPOSE OFF-SITE. MAY BE RE-USED ON-SITE WITH APPROVAL OF GEOTECHNICAL ENGINEER. (NEW DECOMPOSED GRANITE PAVING TO BE REINSTALLED TO MEET NEW GRADES)
- REMOVE EX. DECOMPOSED GRANITE PAVING AND DISPOSE OFF-SITE. (MAY BE RE-USED ON-SITE WITH APPROVAL OF GEOTECH ENGINEER)
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- LIMIT OF WORK (OFFSET FOR CLARITY)
- EX. CHAINLINK FENCING TO REMAIN. PROTECT IN PLACE.
- EX. TUBULAR STEEL FENCING TO REMAIN. PROTECT IN PLACE.
- X — X — EX. CHAINLINK FENCE TO BE REMOVED AND PROPERLY DISPOSED OFF-SITE PER CITY DIRECTION.
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.

- # REMOVE AND PROPERLY DISPOSE OFF-SITE
- # EXISTING-PROTECT IN PLACE
- (#) # REMOVE AND RECONSTRUCT

KEYNOTES

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5. STAND PIPE.
6. 16" PLASTIC PIPE W/FLARED END SECTION.
7. MISC. DEBRIS PILE (DIRT, CONCRETE, SAND). MATERIAL MAY BE REUSED ON SITE WITH PERMISSION OF GEOTECHNICAL ENGINEER OR WILL NEED TO BE REMOVED AND DISPOSED OFFSITE. CONTRACTOR SHALL REVIEW DEBRIS PILES PRIOR TO SUBMITTING BID.
8. 6' CHAINLINK FENCE. REMOVE UNDAMAGED AND RETURN TO RAP STAFF OR DISPOSE OFF-SITE PER CITY DIRECTION.
9. 8' CHAINLINK FENCE.
10. 8' CHAINLINK VEHICULAR GATE.
11. 8' CHAINLINK PEDESTRIAN GATE.
12. 8' TUBULAR STEEL FENCE.
13. BACKFLOW PREVENTER.
14. IRRIGATION VALVE BOX.
15. CURB AND CONCRETE GUTTER.
16. DECOMPOSED GRANITE SIDEWALK.
17. TREE.
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22. BALLFIELD BLEACHER.
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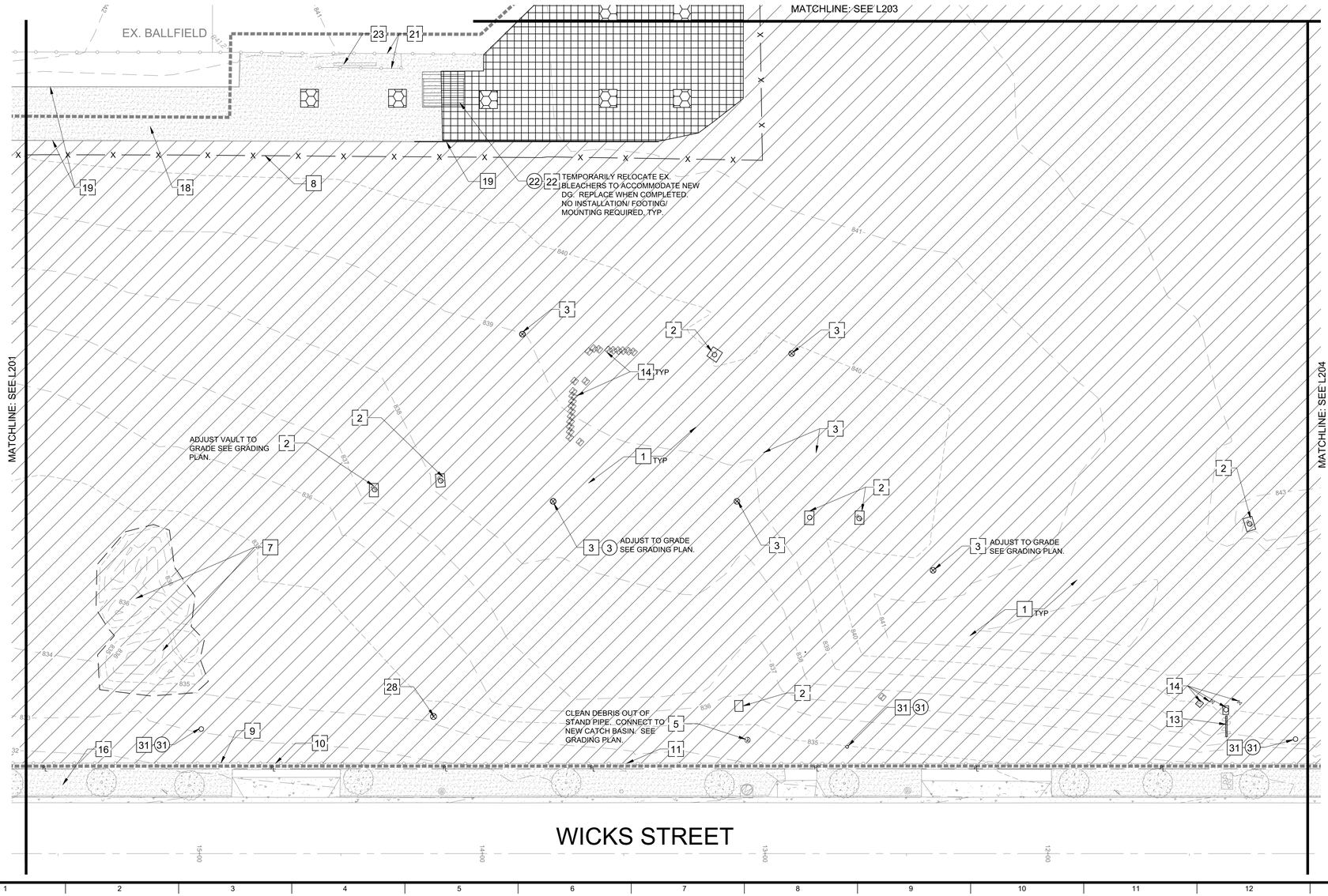
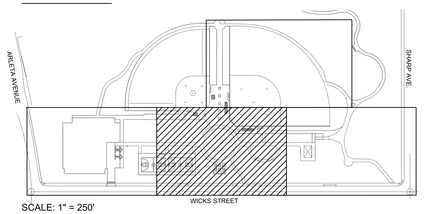
30. NOT USED.
31. LANDFILL PROBE. VAULT LID TO BE REPLACED PER DETAIL A13/L409 AND SET AT NEW GRADE PER GRADING PLAN. PROBE PIPING TO BE PROTECTED IN PLACE DURING DEMOLITION/GRADING OPERATIONS AND MODIFIED PER DETAIL A13/L409. RETURN EX. VAULT LID TO LA SANITATION.



SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

ARCHITECTURAL DIVISION

LANDSCAPE ARCHITECT JANE M. ADRIAN LICENSED 10-31-21 RENEWAL DATE 04-05-21 DATE STATE OF CALIFORNIA

BUREAU OF ENGINEERING OFFICIAL RECORD

DIGALERT Call Toll Free 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert of Southern California

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: DEMOLITION PLAN SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L202
SHEET 21 OF SHEETS 74

PLOTTED: 8/24/2021 2:59 PM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:00 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L201-LXX DEMO PLAN.DWG

REVISION DATES: (DESIGN STAGE ONLY)

DEMOLITION NOTES:

1. CONTRACTOR SHALL MEET WITH PROJECT MANAGER TO REVIEW EXISTING ELEMENTS TO BE DEMOLISHED/PROTECTED PRIOR TO COMMENCEMENT OF WORK.
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- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.

(#) REMOVE AND PROPERLY DISPOSE OFF-SITE

(#) EXISTING-PROTECT IN PLACE

(#)(#) REMOVE AND RECONSTRUCT

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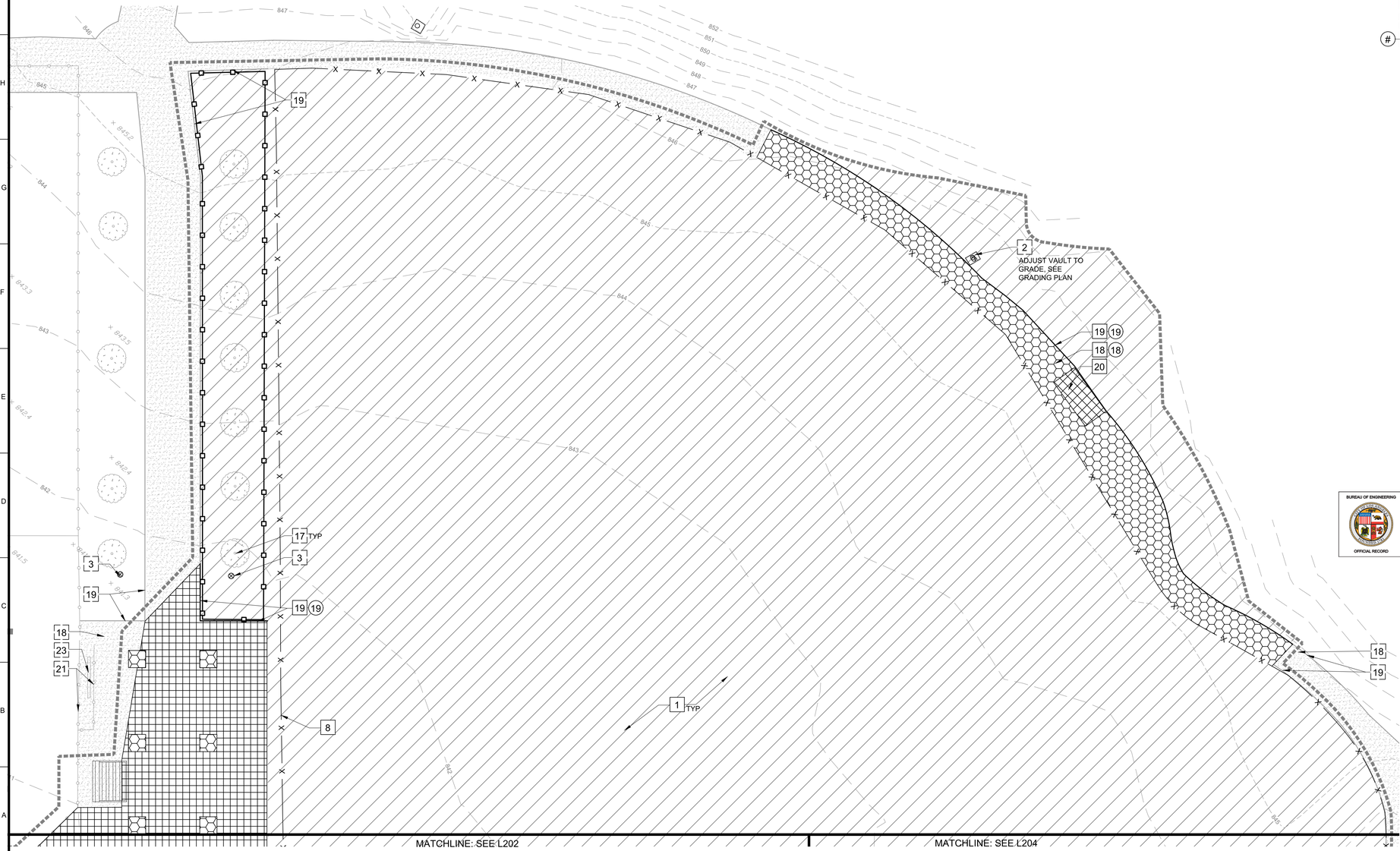
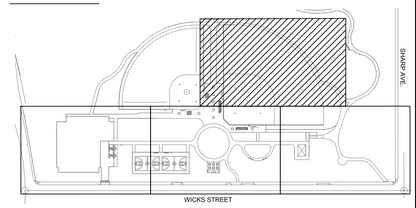


SCALE: 1" = 250'

0 10' 20' 40'

SCALE: 1" = 20'

KEY MAP:



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BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

ENGINEERING CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ARCHITECTURAL DIVISION

LANDSCAPE ARCHITECT: JANE ADRIAN LIC. NO.: 3940 DATE: 04/21/2021

DESIGNED BY: GREG MOESER 04/21/2021

DRAWN BY: GREG MOESER 04/21/2021

CHECKED BY: RICHARD FISHER 04/21/2021

APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT 08/05/2021

LANDSCAPE ARCHITECT JANE ADRIAN LICENSE NO. 3940 10-31-21 RENEWAL DATE 04-05-21 DATE STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: DEMOLITION PLAN SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L203

SHEET 22 OF SHEETS 74

PLOTTED: 8/24/2021 3:02 PM

REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:00 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L201-LXX DEMO PLAN.DWG

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LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

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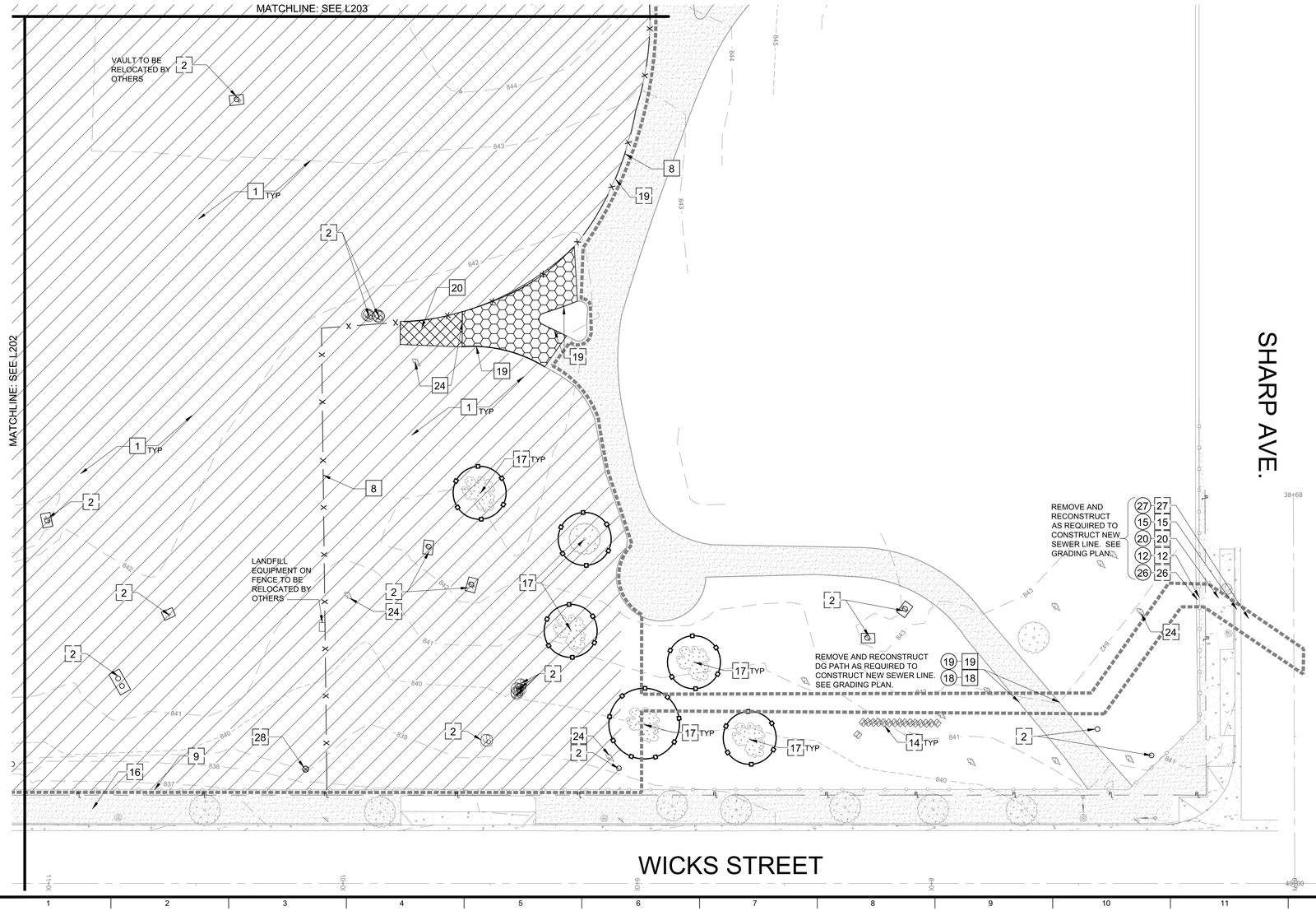
NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

DEMOLITION LEGEND:

- EXISTING CONCRETE TO REMAIN. PROTECT IN PLACE.
- REMOVE EXISTING CONCRETE AND DISPOSE OFF-SITE .
- CLEAR AND GRUB ALL SURFACE PLANTING, WEEDS, DEBRIS, ETC. IN THEIR ENTIRETY (UNLESS OTHERWISE NOTED).
- REMOVE 1.5"-2" OF EX. DECOMPOSED GRANITE PAVING AND DISPOSE OFF-SITE. MAY BE RE-USED ON-SITE WITH APPROVAL OF GEOTECHNICAL ENGINEER. (NEW DECOMPOSED GRANITE PAVING TO BE REINSTALLED TO MEET NEW GRADES)
- REMOVE EX. DECOMPOSED GRANITE PAVING AND DISPOSE OFF-SITE. (MAY BE RE-USED ON-SITE WITH APPROVAL OF GEOTECH ENGINEER)
- EX. DECOMPOSED GRANITE PAVING. PROTECT INPLACE.
- LIMIT OF WORK (OFFSET FOR CLARITY)
- EX. CHAINLINK FENCING TO REMAIN. PROTECT IN PLACE.
- EX. TUBULAR STEEL FENCING TO REMAIN. PROTECT IN PLACE.
- EX. CHAINLINK FENCE TO BE REMOVED AND PROPERLY DISPOSED OFF-SITE PER CITY DIRECTION.
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- # REMOVE AND PROPERLY DISPOSE OFF-SITE
- # EXISTING-PROTECT IN PLACE
- (#) # REMOVE AND RECONSTRUCT

KEYNOTES

1. CLEAR AND GRUB ALL SURFACE PLANTING, WEEDS, DEBRIS, ETC. IN THEIR ENTIRETY PER LANDSCAPE CONSTRUCTION NOTES.
2. LANDFILL EQUIPMENT, VAULT, STANDPIPE.
3. CATCH BASIN.
4. SIDE INLET CATCH BASIN.
5. STAND PIPE.
6. 16" PLASTIC PIPE W/FLARED END SECTION.
7. MISC. DEBRIS PILE (DIRT, CONCRETE, SAND). MATERIAL MAY BE REUSED ON SITE WITH PERMISSION OF GEOTECHNICAL ENGINEER OR WILL NEED TO BE REMOVED AND DISPOSED OFFSITE. CONTRACTOR SHALL REVIEW DEBRIS PILES PRIOR TO SUBMITTING BID.
8. 6' CHAINLINK FENCE. REMOVE UNDAMAGED AND RETURN TO RAP STAFF OR DISPOSE OFF-SITE PER CITY DIRECTION.
9. 8' CHAINLINK FENCE.
10. 8' CHAINLINK VEHICULAR GATE.
11. 8' CHAINLINK PEDESTRIAN GATE.
12. 8' TUBULAR STEEL FENCE.
13. BACKFLOW PREVENTER.
14. IRRIGATION VALVE BOX.
15. CURB AND CONCRETE GUTTER.
16. DECOMPOSED GRANITE SIDEWALK.
17. TREE.
18. DECOMPOSED GRANITE PAVING. REFER TO PLAN NOTES.
19. WOOD HEADER.
20. CONCRETE PAVING.
21. BALLFIELD FENCING.
22. BALLFIELD BLEACHER.
23. BALLFIELD TEAM BENCH.
24. LANDSCAPING/SHRUBS.
25. STORM DRAIN CLEANOUT.
26. CONCRETE HEADER.
27. AC PAVING.
28. MAINTENANCE HOLE/CATCH BASIN.
29. UTILITY POLE.
30. NOT USED.
31. LANDFILL PROBE. VAULT LID TO BE REPLACED PER DETAIL A13/L409 AND SET AT NEW GRADE PER GRADING PLAN. PROBE PIPING TO BE PROTECTED IN PLACE DURING DEMOLITION/GRADING OPERATIONS AND MODIFIED PER DETAIL A13/L409. RETURN EX. VAULT LID TO LA SANITATION.





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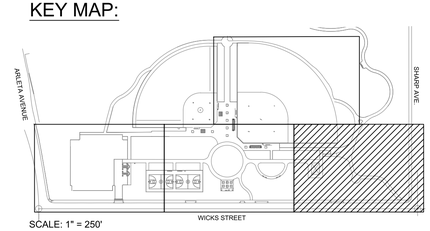
Underground Service Alert of Southern California

SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
JANE M. ADRIAN
No. 3940
10-31-21
Registered Landscape Architect
04-05-21
Date
STATE OF CALIFORNIA

ARCHITECTURAL DIVISION	LIC. NO.: 3940	04/21/2021
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: DEMOLITION PLAN SHEET 4
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L204
SHEET 23 OF SHEETS 74

PLOTTED: 8/24/2021 3:04 PM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:00 PM
FILE PATH: Q:\IN-HOUSE-DESIGNS\HELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGNWORKING_DRAWINGS\L201-LXX DEMO PLAN.DWG
REVISION DATES (DESIGN STAGE ONLY)

GRADING NOTES:

1) ALL GRADING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE BCA INSPECTOR. THE CONTRACTOR MUST NOTIFY THE BCA INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY GRADING/CONSTRUCTION OPERATIONS.
2) THE PROJECT GEOTECHNICAL REPORT SHALL BE MADE AS PART OF THIS PLAN. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND GRADING OPERATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OF RECORD OR HIS DESIGNEE AS OUTLINED IN THE REPORT.
3) SURVEYING REQUIRED FOR VERTICAL AND HORIZONTAL ALIGNMENT MUST BE PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE AND PERFORMED PER THE GENERAL REQUIREMENTS. CONTRACTOR WILL BE PROVIDED WITH A DIGITAL SITE LAYOUT/GRADING PLAN IN AUTOCAD FORMAT. NO ADDITIONAL HORIZONTAL CONTROL PLAN WILL BE PROVIDED.
4) CONTRACTOR SHALL REMOVE ALL DEBRIS FROM EXISTING CATCH BASINS WITHIN THE PROJECT LIMIT OF WORK.
5) A COPY OF THE MOST RECENT VERSION OF THE APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE JOB SITE AT ALL TIMES.
6) WHEN REQUIRED BY CODE, SHORING FOR TRENCH EXCAVATIONS SHALL BE PROVIDED TO SATISFY STATE OF CALIFORNIA SAFETY REQUIREMENTS AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING AND OBTAINING ALL REQUIRED SHORING PERMITS.
7) THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION OPERATION UNTIL THE SUBGRADE HAS BEEN APPROVED BY THE GRADING INSPECTOR AND GEOTECHNICAL ENGINEER WHERE REQUIRED.
8) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE ON SURFACE FLOW AREAS AT 1% (MIN.) ON HARDSCAPE AND 2% (MIN.) ON SOIL GRADE UNLESS OTHERWISE INDICATED.
9) CONTRACTOR SHALL ASSUME STRAIGHT GRADE BETWEEN ELEVATION POINTS LISTED FOR FINISH GRADE OF NEW CONSTRUCTION UNLESS INSTRUCTED OTHERWISE.
10) FINISH GRADE OF PLANTING AREAS SHALL BE WITHIN A TOLERANCE OF .04 FEET (1/2") OF GRADING PLAN AS SHOWN. FINISH GRADE IN MULCHED PLANTING AREAS SHALL BE 1" BELOW TOP OF ADJACENT PAVING. ALL SOIL SURFACES SHALL BE BROUGHT TO A CONSISTENT GRADE, HAVING NO IRREGULARITIES, DEPRESSIONS, OR RIDGES TO THE SATISFACTION OF THE CITY ENGINEER. FINE GRADE ALL AREAS TO PROVIDE POSITIVE DRAINAGE AND SMOOTH, CONSISTENT GRADE TRANSITIONS.
11) CONTRACTOR SHALL REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL DEBRIS AND EXCAVATED MATERIAL NOT REQUIRED FOR FILL. NO RUBBISH OR DEBRIS SHALL BE BURIED ON THE SITE.
12) ESTIMATED EARTHWORK QUANTITIES PROVIDED HEREIN TO BE USED FOR JURISDICTIONAL PLAN CHECKING AND PERMITTING ONLY. THE CONTRACTOR SHALL CALCULATE HIS OWN EARTHWORK QUANTITIES AS REQUIRED FOR BIDDING AND EXECUTION OF WORK. THE CITY IS NOT RESPONSIBLE FOR THE CONTRACTOR'S EARTHWORK CALCULATION.
13) THE ESTIMATED EARTHWORK DOES NOT CONSIDER THE REMOVAL OF ANY UNSUITABLE MATERIAL, AND THE REMOVAL OF EXISTING TOP SOIL OR VEGETATION. THE ESTIMATED EARTHWORK QUANTITIES DOES NOT INCLUDE SWELL/SHRINKAGE FACTORS. THE ESTIMATED EARTHWORK QUANTITIES ASSUME THAT ALL ON-SITE MATERIALS ARE SUIITABLE FOR BACKFILLING. HOWEVER, ACTUAL ON-SITE MATERIALS AND IMPORTED MATERIALS MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.
14) PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.
15) RESILIENT SURFACING (AND PLAYGROUND EQUIPMENT) SHALL BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS AS NOTED PER PLAN. CONTRACTOR SHALL COORDINATE WORK WITH PLAYGROUND INSTALLER.

ESTIMATED EARTHWORK*

ESTIMATED CUT = 4,762 CY

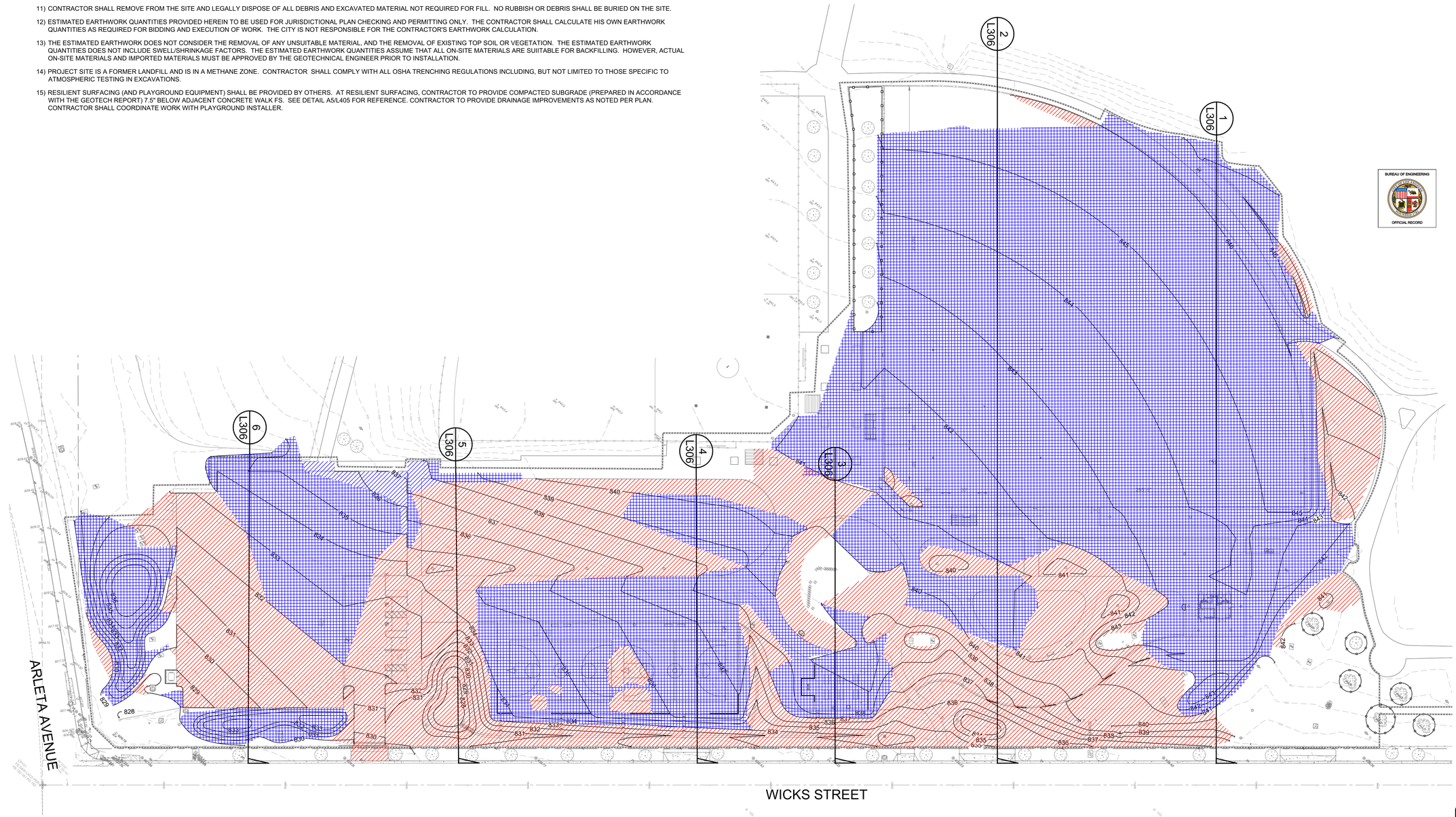
ESTIMATED FILL = 4,762 CY

OVER EX./RECOMPACTION = 4,827 CY

*REFER TO GRADING NOTES 12 AND 13.

LEGEND

- LIMIT OF WORK (OFFSET FOR CLARITY)
- PROPOSED CONTOUR
- EXISTING CONTOUR
- APPROXIMATE AREA OF CUT
- APPROXIMATE AREA OF FILL
- GRADE BREAK
- FLOW LINE
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.



SCALE: 1" = 40'

BUREAU OF ENGINEERING
OFFICIAL RECORD

DIG ALERT
Call Toll Free 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert of Southern California

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

JANE M. ADRIAN
LANDSCAPE ARCHITECT
NO. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ARCHITECTURAL DIVISION		DATE:	
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021	
DESIGNED BY: GREG MOESER		04/21/2021	
DRAWN BY: GREG MOESER		04/21/2021	
CHECKED BY: RICHARD FISHER		04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021	

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: GRADING PLAN

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L300
SHEET 24 OF SHEETS 74

PLOTTED: 8/24/2021 3:08 PM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L300-L306_GRADING.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/11/2021 12:53 PM

REVISION DATES (DESIGN STAGE ONLY)

GRADING NOTES:

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8) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE ON SURFACE FLOW AREAS AT 1% (MIN.) ON HARDSCAPE AND 2% (MIN.) ON SOIL GRADE UNLESS OTHERWISE INDICATED.
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14) PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.
15) RESILIENT SURFACING (AND PLAYGROUND EQUIPMENT) SHALL BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS AS NOTED PER PLAN. CONTRACTOR SHALL COORDINATE WORK WITH PLAYGROUND INSTALLER.

DRAINAGE SYSTEM NOTES

1. ALL CATCH NYOPLAST BASINS/INLINE DRAINS (EXCEPT IN THE PLAYGROUND AREA UNDER RESILIENT SURFACING) SHALL HAVE LOCKABLE GRATES WITH "NO DUMPING - DRAINS TO OCEAN" GRATE MARKER, AND FLEXSTORM INLET FILTERS (OR APPROVED EQUAL).
2. ALL NYOPLAST DRAIN BASINS SHALL BE INSTALLED WITH A SUMP INSERT. IN LIEU OF NYOPLAST DRAIN BASIN AND SUMP INSERT, CONTRACTOR MAY INSTALL A NYOPLAST INLINE DRAIN WITH ELBOW/TEE WHERE APPLICABLE PER MANUFACTURER'S INSTRUCTIONS.
3. THE DRAINAGE SYSTEM SHALL BE INSTALLED COMPLETE AND INCLUDE ALL FITTINGS/MATERIALS AS REQUIRED TO ENSURE WATER TIGHT JOINTS, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND THE LANDSCAPE CONSTRUCTION NOTES.
4. SUBGRADE AND BACKFILL FOR ALL NYOPLAST BASINS/DRAINS SHALL BE IN PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND LANDSCAPE CONSTRUCTION NOTES AND BE APPROVED BY THE GEOTECHNICAL ENGINEER.
5. MAINTAIN 1' MIN. COVER OVER DRAIN LINES.

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER; AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

ABBREVIATIONS

(173.2)	EXISTING GRADE
BC	BOTTOM OF CURB
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
FL	FLOW LINE
FS	FINISH SURFACE
GB	GRADE BREAK
HP	HIGH POINT
IE	INVERT ELEVATION
LP	LOW POINT
PA	PLANTING AREA
PL	PROPERTY LINE
RE	RIM ELEVATION
TA	TURF AREA
TC	TOP OF CURB
TL	TOP OF LINER OF BIOFILTRATION AREA. SEE DETAIL J9/L406.
TV	TOP OF VAULT

ESTIMATED EARTHWORK*

ESTIMATED CUT = 4,762 CY

ESTIMATED FILL = 4,762 CY

OVER EX./RECOMPACTION = 4,827 CY

*REFER TO GRADING NOTES 12 AND 13.

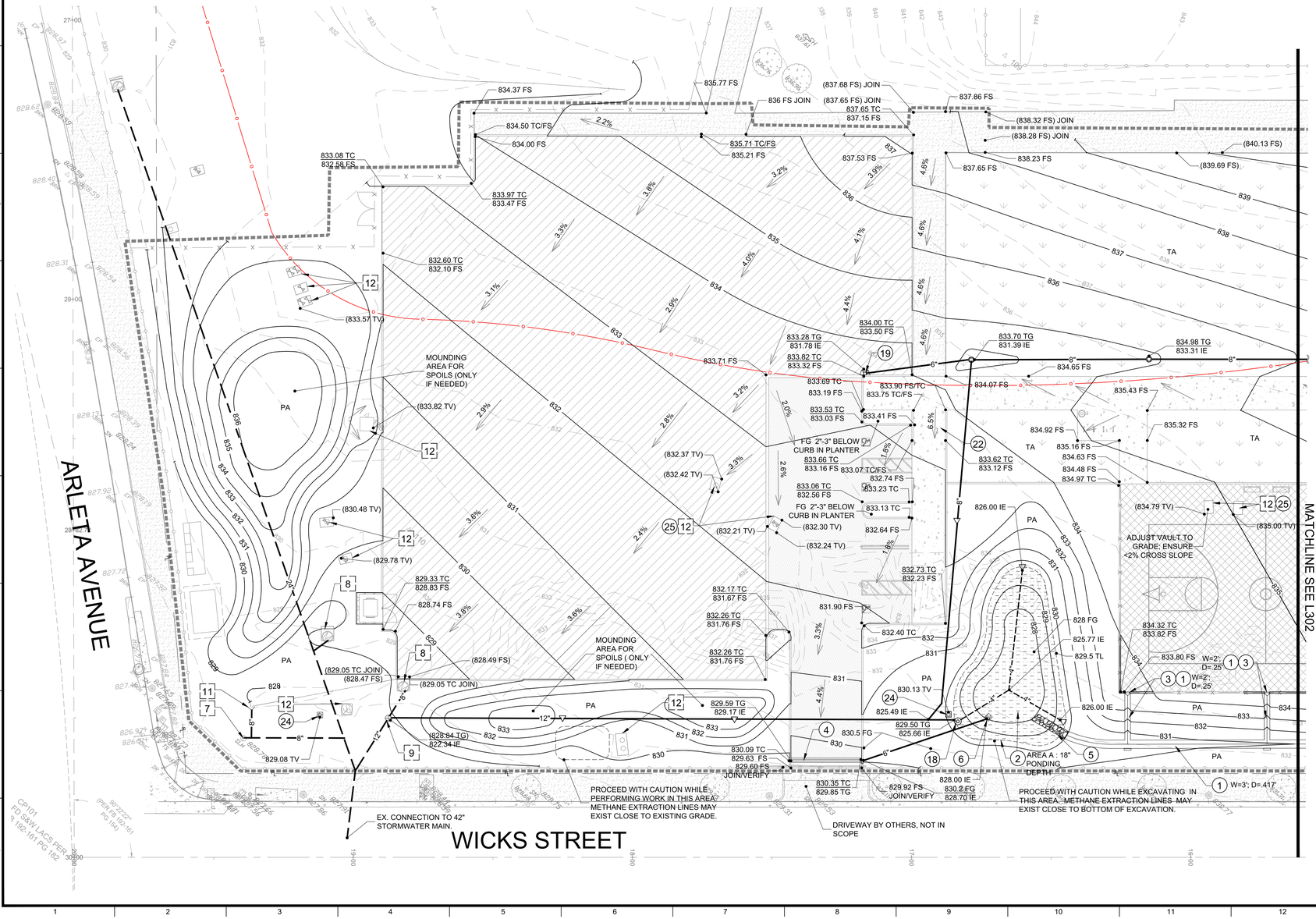
LEGEND

- LIMIT OF WORK (OFFSET FOR CLARITY)
- PROPOSED CONTOUR
- EXISTING CONTOUR
- DIRECTION OF SURFACE FLOW
- ADS N12 STORM DRAIN PIPE. SIZED PER PLAN.
- 4" SDR-35 PVC PERFORATED DRAIN PIPE. SEE DETAIL J9/L406.
- EX. SDR-35 PVC PIPE TO REMAIN.
- SS — SEWER LINE. SHALL BE 4" ABS WITHIN PROPERTY LINE AND 6" VCP FROM PROPERTY LINE TO CONNECTION TO SEWER MAIN.
- DL — 3" ABS DRAIN PIPE.
- GRADE BREAK
- FLOW LINE
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- APPROXIMATE BOUNDARY OF FORMER LANDFILL (SUBSURFACE)
- LID BIOFILTRATION AREA. INSTALL PER DETAIL J9/L406 AND PLAN NOTES.
- CATCH BASIN @ TURF/LANDSCAPE AREA: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND LOCKABLE STANDARD H20 RATED GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS FOR "TURF TRAFFIC INSTALLATION" (WITH 8" THICK, 18" WIDE CONCRETE COLLAR ALLOWING FOR 6" SOIL MIN. IN TURF/PLANTING AREAS).
- CATCH BASIN @ RESILIENT SURFACING: 8" NYOPLAST DRAIN BASIN WITH 8" DROP-IN GRATE OR APPROVED EQUAL; WRAP GRATE WITH GEOTEX 351 FILTER FABRIC OR APPROVED EQUAL. CONTRACTOR TO PROVIDE/INSTALL CATCH BASIN WITH STUB OUT AND PROVIDE GRATE FOR FINAL GRATE INSTALLATION BY OTHERS.
- CATCH BASIN @ PEDESTRIAN PAVING: 8 1/2" HEAVY DUTY FLOOR DRAIN WITH DUCTILE IRON GRATE AND VANDAL PROOF LID, MODEL 2120 BY JAY. R. SMITH OR APPROVED EQUAL. INSTALL PER A9/L409 AND MANUFACTURER'S INSTRUCTIONS.
- STORM DRAIN CLEANOUT. INSTALL PER DETAIL A5/L407.
- SEWER CLEANOUT. INSTALL PER CITY STD DETAIL S-164-0. SEE LANDSCAPE CONSTRUCTION NOTES.

(#) CONSTRUCT [#] EXISTING-PROTECT IN PLACE

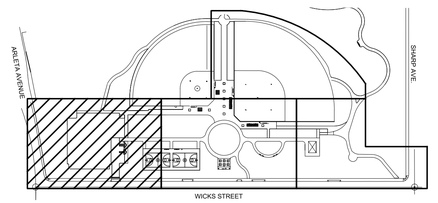
KEYNOTES

1. V-GUTTER. INSTALL PER DETAIL E5/L405. SIZE PER PLAN NOTES.
2. LID BIOFILTRATION AREA. INSTALL PER DETAIL J9/L406 AND PLAN NOTES.
3. CURB OPENING/SPLASH BLOCK @ V-GUTTER. INSTALL PER DETAIL A1/L406.
4. TRENCH DRAIN. INSTALL PER DETAIL J13/L406.
5. SPLASH ROCK SWALE AT V-GUTTER. SEE DETAIL A1/L406.
6. PIPE OULET AT BIOFILTRATION AREA INSTALL PER DETAIL E9/L406.
7. EX. DRAIN LINE CLEANOUT.
8. EX. SIDE OPENING CATCH BASIN.
9. EX. NYOPLAST CATCH BASIN.
10. EX. MAINTENANCE HOLE "EZ" LA CITY STD PLAN S-381-0.
11. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
12. EX. LANDFILL EQUIPMENT TO REMAIN. PROTECT IN PLACE.
13. EX. IRRIGATION EQUIPMENT TO REMAIN. PROTECT IN PLACE. REFER TO IRRIGATION PLANS.
14. CATCH BASIN @ V-GUTTER: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND STANDARD H20 RATED GRATE. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND J1/L406.
15. V-GUTTER @ EX. MAINTENANCE HOLE. INSTALL PER DETAILA9/L405.
16. NOT USED.
17. CATCH BASIN @ LANDSCAPE CURB/GUTTER: 12" NYLOPLAST DRAIN BASIN WITH 12" SQUARE PEDESTRIAN GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E1/L407.
18. CATCH BASIN @ BIOFILTRATION AREA: 30" NYOPLAST DRAIN BASIN WITH 30" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
19. CATCH BASIN @ CMB PAVING: 24" NYOPLAST INLINE DRAIN WITH 24" SQUARE ROAD & HIGHWAY IRON DUCTILE GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E13/L406.
20. INSTALL MITERED DRAIN OUTLET AND GRATE AT V-GUTTER.
21. HEADWALL. SEE DETAIL J1/L408.
22. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
23. CATCH BASIN @ BIOFILTRATION AREA: 18" NYOPLAST DRAIN BASIN WITH 18" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
24. LANDFILL PROBE VAULT. INSTALL PER DETAIL A13/L409.
25. REPLACE VAULT LID. SEE CONSTRUCTION PLAN.



SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

BUREAU OF ENGINEERING — OFFICIAL RECORD

DIGALERT — Call Toll Free 1-800-227-2600 AT LEAST TWO WORKING DAYS BEFORE YOU DIG. Underground Service Alert of Southern California

CITY OF LOS ANGELES — DEPARTMENT OF PUBLIC WORKS — BUREAU OF ENGINEERING — ENGINEERING — CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

JANE M. ADRIAN — LANDSCAPE ARCHITECT — NO. 3940 — STATE OF CALIFORNIA — 10-31-21 Renewal Date — 04-05-21 Date

	DATE:	04/21/2021	04/21/2021	04/21/2021	04/21/2021	08/05/2021
ENGINEER	LIC. NO.: 3940					
LANDSCAPE ARCHITECT: JANE ADRIAN	ARCHITECTURAL DIVISION					
DESIGNED BY:	GREG MOESER					
DRAWN BY:	GREG MOESER					
CHECKED BY:	RICHARD FISHER					
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT					

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHELLE A. SHULL

SHEET TITLE: GRADING AND DRAINAGE PLAN SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L301

SHEET 25 OF SHEETS 74

PLOTTED: 8/24/2021 3:12 PM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L300_GRADING.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/11/2021 12:53 PM

REVISION DATES: (DESIGN STAGE ONLY)

GRADING NOTES:

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2) THE PROJECT GEOTECHNICAL REPORT SHALL BE MADE AS PART OF THIS PLAN. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND GRADING OPERATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OF RECORD OR HIS DESIGNEE AS OUTLINED IN THE REPORT.

3) SURVEYING REQUIRED FOR VERTICAL AND HORIZONTAL ALIGNMENT MUST BE PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE AND PERFORMED PER THE GENERAL REQUIREMENTS. CONTRACTOR WILL BE PROVIDED WITH A DIGITAL SITE LAYOUT/GRADING PLAN IN AUTOCAD FORMAT. NO ADDITIONAL HORIZONTAL CONTROL PLAN WILL BE PROVIDED.

4) CONTRACTOR SHALL REMOVE ALL DEBRIS FROM EXISTING CATCH BASINS WITHIN THE PROJECT LIMIT OF WORK.

5) A COPY OF THE MOST RECENT VERSION OF THE APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE JOB SITE AT ALL TIMES.

6) WHEN REQUIRED BY CODE, SHORING FOR TRENCH EXCAVATIONS SHALL BE PROVIDED TO SATISFY STATE OF CALIFORNIA SAFETY REQUIREMENTS AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING AND OBTAINING ALL REQUIRED SHORING PERMITS.

7) THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION OPERATION UNTIL THE SUBGRADE HAS BEEN APPROVED BY THE GRADING INSPECTOR AND GEOTECHNICAL ENGINEER WHERE REQUIRED.

8) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE ON SURFACE FLOW AREAS AT 1% (MIN.) ON HARDSCAPE AND 2% (MIN.) ON SOIL GRADE UNLESS OTHERWISE INDICATED.

9) CONTRACTOR SHALL ASSUME STRAIGHT GRADE BETWEEN ELEVATION POINTS LISTED FOR FINISH GRADE OF NEW CONSTRUCTION UNLESS INSTRUCTED OTHERWISE.

10) FINISH GRADE OF PLANTING AREAS SHALL BE WITHIN A TOLERANCE OF .04 FEET (1/2") OF GRADING PLAN AS SHOWN. FINISH GRADE IN MULCHED PLANTING AREAS SHALL BE 1" BELOW TOP OF ADJACENT PAVING. ALL SOIL SURFACES SHALL BE BROUGHT TO A CONSISTENT GRADE, HAVING NO IRREGULARITIES, DEPRESSIONS, OR RIDGES TO THE SATISFACTION OF THE CITY ENGINEER. FINE GRADE ALL AREAS TO PROVIDE POSITIVE DRAINAGE AND SMOOTH, CONSISTENT GRADE TRANSITIONS.

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12) ESTIMATED EARTHWORK QUANTITIES PROVIDED HEREIN TO BE USED FOR JURISDICTIONAL PLAN CHECKING AND PERMITTING ONLY. THE CONTRACTOR SHALL CALCULATE HIS OWN EARTHWORK QUANTITIES AS REQUIRED FOR BIDDING AND EXECUTION OF WORK. THE CITY IS NOT RESPONSIBLE FOR THE CONTRACTOR'S EARTHWORK CALCULATION.

13) THE ESTIMATED EARTHWORK DOES NOT CONSIDER THE REMOVAL OF ANY UNSUITABLE MATERIAL, AND THE REMOVAL OF EXISTING TOP SOIL OR VEGETATION. THE ESTIMATED EARTHWORK QUANTITIES DOES NOT INCLUDE SWELL/SHRINKAGE FACTORS. THE ESTIMATED EARTHWORK QUANTITIES ASSUME THAT ALL ON-SITE MATERIALS ARE SUIITABLE FOR BACKFILLING. HOWEVER, ACTUAL ON-SITE MATERIALS AND IMPORTED MATERIALS MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.

14) PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

15) RESILIENT SURFACING (AND PLAYGROUND EQUIPMENT) SHALL BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS AS NOTED PER PLAN. CONTRACTOR SHALL COORDINATE WORK WITH PLAYGROUND INSTALLER.

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1. ALL CATCH NYOPLAST BASINS/INLINE DRAINS (EXCEPT IN THE PLAYGROUND AREA UNDER RESILIENT SURFACING) SHALL HAVE LOCKABLE GRATES WITH "NO DUMPING - DRAINS TO OCEAN" GRATE MARKER, AND FLEXSTORM INLET FILTERS (OR APPROVED EQUAL).
2. ALL NYOPLAST DRAIN BASINS SHALL BE INSTALLED WITH A SUMP INSERT. IN LIEU OF NYOPLAST DRAIN BASIN AND SUMP INSERT, CONTRACTOR MAY INSTALL A NYOPLAST INLINE DRAIN WITH ELBOW/TEE WHERE APPLICABLE PER MANUFACTURER'S INSTRUCTIONS.
3. THE DRAINAGE SYSTEM SHALL BE INSTALLED COMPLETE AND INCLUDE ALL FITTINGS/MATERIALS AS REQUIRED TO ENSURE WATER TIGHT JOINTS, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND THE LANDSCAPE CONSTRUCTION NOTES.
4. SUBGRADE AND BACKFILL FOR ALL NYOPLAST BASINS/DRAINS SHALL BE IN PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND LANDSCAPE CONSTRUCTION NOTES AND BE APPROVED BY THE GEOTECHNICAL ENGINEER.
5. MAINTAIN 1' MIN. COVER OVER DRAIN LINES.

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

ABBREVIATIONS

(173.2)	EXISTING GRADE
BC	BOTTOM OF CURB
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
FL	FLOW LINE
FS	FINISH SURFACE
GB	GRADE BREAK
HP	HIGH POINT
IE	INVERT ELEVATION
LP	LOW POINT
PA	PLANTING AREA
PL	PROPERTY LINE
RE	RIM ELEVATION
TA	TURF AREA
TC	TOP OF CURB
TL	TOP OF LINER OF BIOFILTRATION AREA. SEE DETAIL J9/L406.
TV	TOP OF VAULT

ESTIMATED EARTHWORK*

ESTIMATED CUT = 4,762 CY

ESTIMATED FILL = 4,762 CY

OVER EX./RECOMPACTION = 4,827 CY

*REFER TO GRADING NOTES 12 AND 13.

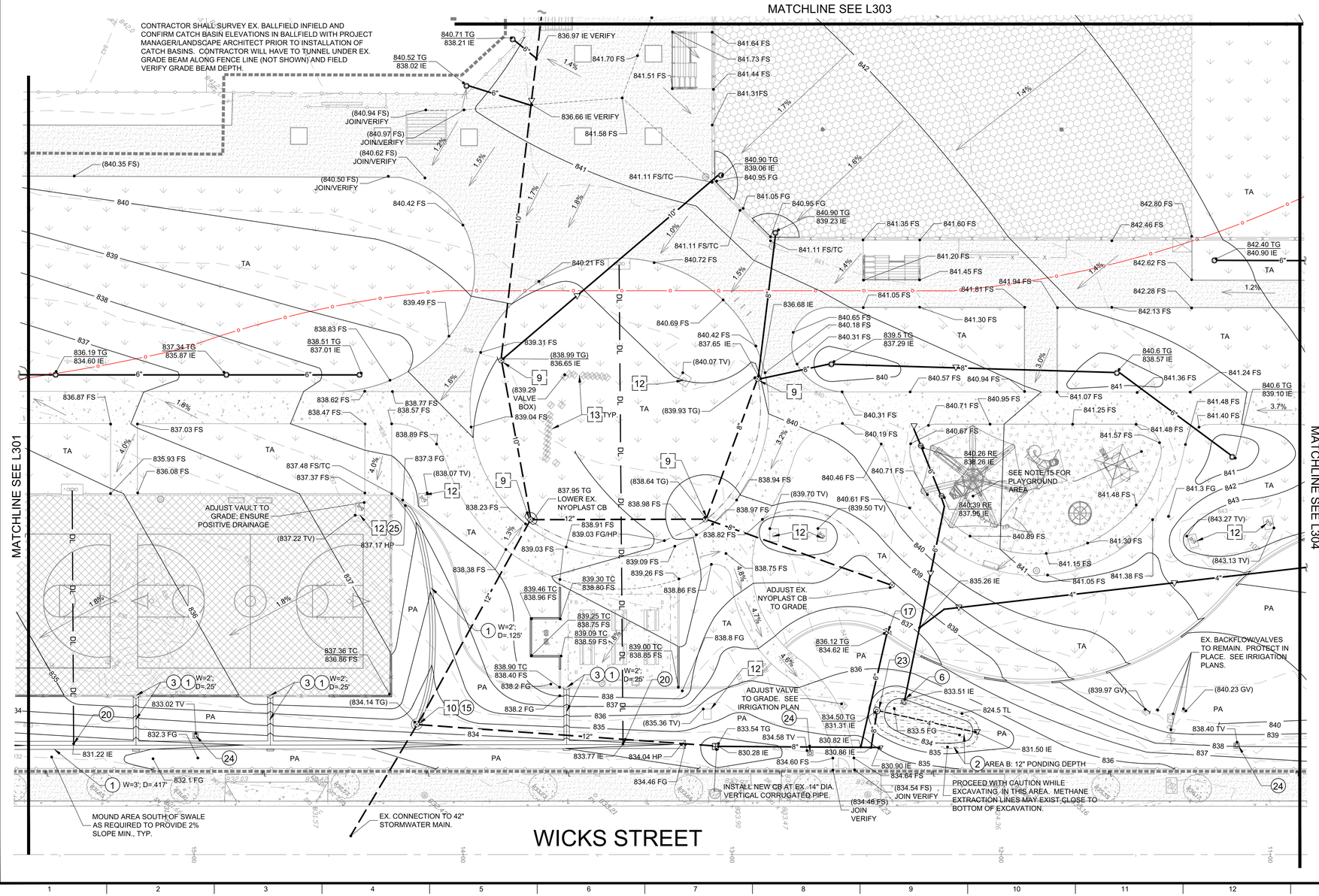
LEGEND

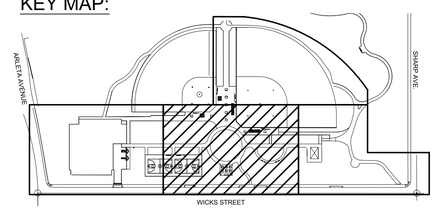
- LIMIT OF WORK (OFFSET FOR CLARITY)
- PROPOSED CONTOUR
- EXISTING CONTOUR
- DIRECTION OF SURFACE FLOW
- ADS N12 STORM DRAIN PIPE. SIZED PER PLAN.
- 4" SDR-35 PVC PERFORATED DRAIN PIPE. SEE DETAIL J9/L406.
- EX. SDR-35 PVC PIPE TO REMAIN.
- SS — SEWER LINE. SHALL BE 4" ABS WITHIN PROPERTY LINE AND 6" VCP FROM PROPERTY LINE TO CONNECTION TO SEWER MAIN.
- DL — 3" ABS DRAIN PIPE.
- GRADE BREAK
- FLOW LINE
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- APPROXIMATE BOUNDARY OF FORMER LANDFILL (SUBSURFACE)
- LID BIOFILTRATION AREA. INSTALL PER DETAIL J9/L406 AND PLAN NOTES.
- CATCH BASIN @ TURF/LANDSCAPE AREA: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND LOCKABLE STANDARD H20 RATED GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS FOR "TURF TRAFFIC INSTALLATION" (WITH 8" THICK, 18" WIDE CONCRETE COLLAR ALLOWING FOR 6" SOIL MIN. IN TURF/PLANTING AREAS).
- CATCH BASIN @ RESILIENT SURFACING: 8" NYOPLAST DRAIN BASIN WITH 8" DROP-IN GRATE OR APPROVED EQUAL; WRAP GRATE WITH GEOTEX 351 FILTER FABRIC OR APPROVED EQUAL. CONTRACTOR TO PROVIDE/INSTALL CATCH BASIN WITH STUB OUT AND PROVIDE GRATE FOR FINAL GRATE INSTALLATION BY OTHERS.
- CATCH BASIN @ PEDESTRIAN PAVING: 8 1/2" HEAVY DUTY FLOOR DRAIN WITH DUCTILE IRON GRATE AND VANDAL PROOF LID, MODEL 2120 BY JAY. R. SMITH OR APPROVED EQUAL. INSTALL PER A9/L409 AND MANUFACTURER'S INSTRUCTIONS.
- STORM DRAIN CLEANOUT. INSTALL PER DETAIL A5/L407.
- SEWER CLEANOUT. INSTALL PER CITY STD DETAIL S-164-0. SEE LANDSCAPE CONSTRUCTION NOTES.

(#) CONSTRUCT [#] EXISTING-PROTECT IN PLACE

KEYNOTES

1. V-GUTTER. INSTALL PER DETAIL E5/L405. SIZE PER PLAN NOTES.
2. LID BIOFILTRATION AREA. INSTALL PER DETAIL J9/L406 AND PLAN NOTES.
3. CURB OPENING/SPLASH BLOCK @ V-GUTTER. INSTALL PER DETAIL A1/L406.
4. TRENCH DRAIN. INSTALL PER DETAIL J13/L406.
5. SPLASH ROCK SWALE AT V-GUTTER. SEE DETAIL A1/L406.
6. PIPE OULET AT BIOFILTRATION AREA INSTALL PER DETAIL E9/L406.
7. EX. DRAIN LINE CLEANOUT.
8. EX. SIDE OPENING CATCH BASIN.
9. EX. NYOPLAST CATCH BASIN.
10. EX. MAINTENANCE HOLE "EZ" LA CITY STD PLAN S-381-0.
11. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
12. EX. LANDFILL EQUIPMENT TO REMAIN. PROTECT IN PLACE.
13. EX. IRRIGATION EQUIPMENT TO REMAIN. PROTECT IN PLACE. REFER TO IRRIGATION PLANS.
14. CATCH BASIN @ V-GUTTER: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND STANDARD H20 RATED GRATE. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND J1/L406.
15. V-GUTTER @ EX. MAINTENANCE HOLE. INSTALL PER DETAILA9/L405.
16. NOT USED.
17. CATCH BASIN @ LANDSCAPE CURB/GUTTER: 12" NYLOPLAST DRAIN BASIN WITH 12" SQUARE PEDESTRIAN GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E1/L407.
18. CATCH BASIN @ BIOFILTRATION AREA: 30" NYOPLAST DRAIN BASIN WITH 30" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
19. CATCH BASIN @ CMB PAVING: 24" NYOPLAST INLINE DRAIN WITH 24" SQUARE ROAD & HIGHWAY IRON DUCTILE GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E13/L406.
20. INSTALL MITERED DRAIN OUTLET AND GRATE AT V-GUTTER.
21. HEADWALL. SEE DETAIL J1/L408.
22. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
23. CATCH BASIN @ BIOFILTRATION AREA: 18" NYOPLAST DRAIN BASIN WITH 18" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
24. LANDFILL PROBE VAULT. INSTALL PER DETAIL A13/L409.
25. REPLACE VAULT LID. SEE CONSTRUCTION PLAN.





SCALE: 1" = 250'

0 10' 20' 40'

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BUREAU OF ENGINEERING — OFFICIAL RECORD

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DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

BUREAU OF ENGINEERING
CITY OF LOS ANGELES
ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

ARCHITECTURAL DIVISION
LANDSCAPE ARCHITECT: JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — DATE: 04/21/2021
DRAWN BY: GREG MOESER — DATE: 04/21/2021
CHECKED BY: RICHARD FISHER — DATE: 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — DATE: 08/05/2021

JANE ADRIAN — LANDSCAPE ARCHITECT — No. 3940 — 10-31-21 — RENEWAL DATE — 04-05-21 — DATE — STATE OF CALIFORNIA

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: GRADING AND DRAINAGE PLAN SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L302
SHEET 26 OF SHEETS 74

PLOTTED: 8/24/2021 3:13 PM

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FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L300-L306_GRADING.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/11/2021 12:53 PM

REVISION DATES (DESIGN STAGE ONLY)

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*REFER TO GRADING NOTES 12 AND 13.

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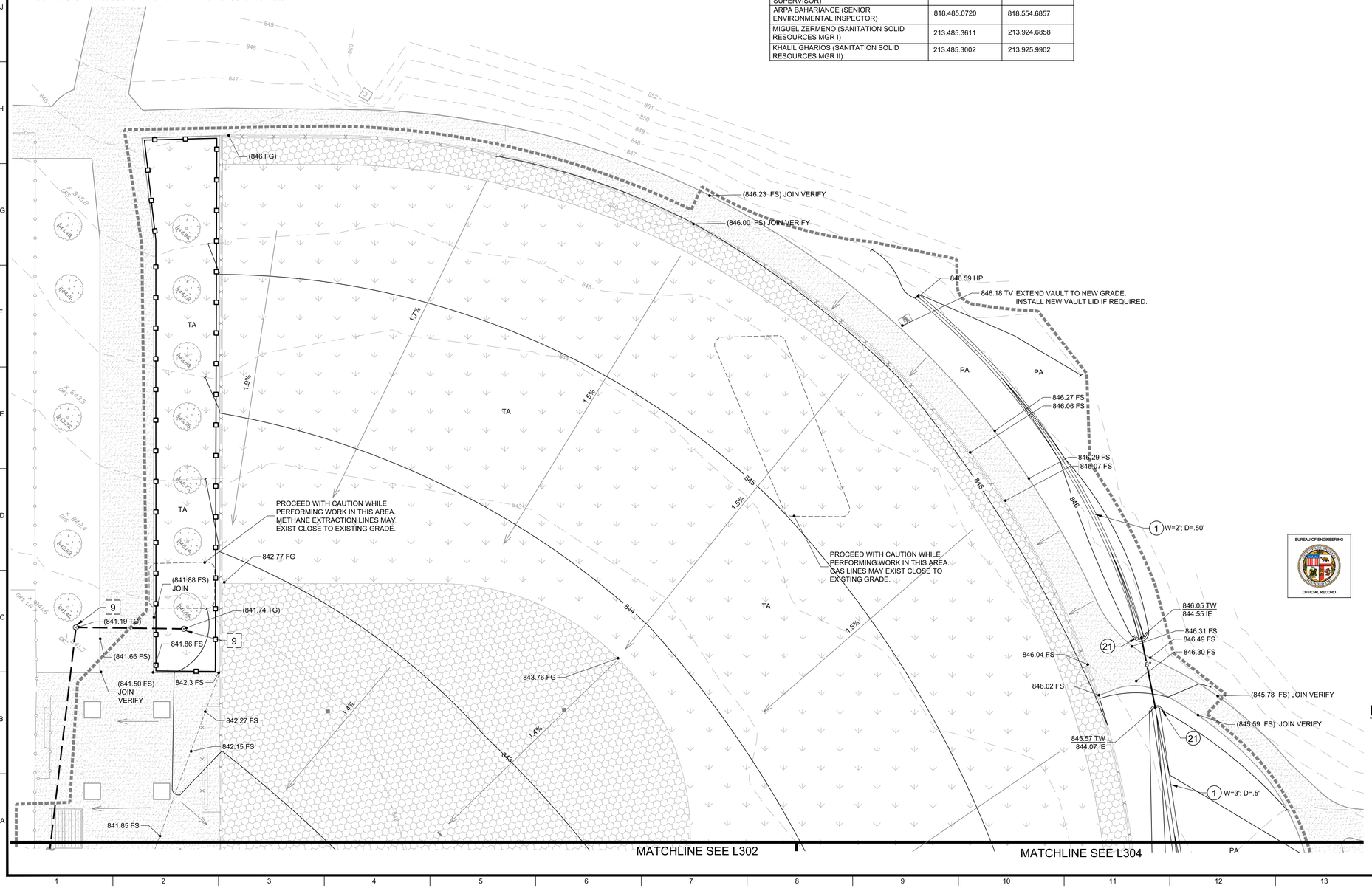
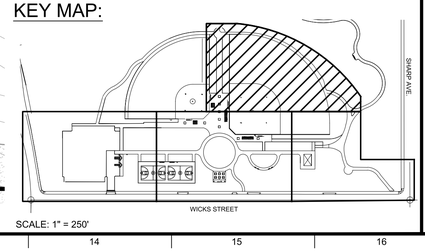
- CATCH BASIN @ TURF/LANDSCAPE AREA: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND LOCKABLE STANDARD H20 RATED GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS FOR "TURF TRAFFIC INSTALLATION" (WITH 8" THICK, 18" WIDE CONCRETE COLLAR ALLOWING FOR 6" SOIL MIN. IN TURF/PLANTING AREAS).
- CATCH BASIN @ RESILIENT SURFACING: 8" NYOPLAST DRAIN BASIN WITH 8" DROP-IN GRATE OR APPROVED EQUAL; WRAP GRATE WITH GEOTEX 351 FILTER FABRIC OR APPROVED EQUAL. CONTRACTOR TO PROVIDE/INSTALL CATCH BASIN WITH STUB OUT AND PROVIDE GRATE FOR FINAL GRATE INSTALLATION BY OTHERS.
- CATCH BASIN @ PEDESTRIAN PAVING: 8 1/2" HEAVY DUTY FLOOR DRAIN WITH DUCTILE IRON GRATE AND VANDAL PROOF LID, MODEL 2120 BY JAY. R. SMITH OR APPROVED EQUAL. INSTALL PER A9/L409 AND MANUFACTURER'S INSTRUCTIONS.
- STORM DRAIN CLEANOUT. INSTALL PER DETAIL A5/L407.
- SEWER CLEANOUT. INSTALL PER CITY STD DETAIL S-164-0. SEE LANDSCAPE CONSTRUCTION NOTES.

(#) CONSTRUCT [#] EXISTING-PROTECT IN PLACE

KEYNOTES

1. V-GUTTER. INSTALL PER DETAIL E5/L405. SIZE PER PLAN NOTES.
2. LID BIOFILTRATION AREA. INSTALL PER DETAIL J9/L406 AND PLAN NOTES.
3. CURB OPENING/SPLASH BLOCK @ V-GUTTER. INSTALL PER DETAIL A1/L406.
4. TRENCH DRAIN. INSTALL PER DETAIL J13/L406.
5. SPLASH ROCK SWALE AT V-GUTTER. SEE DETAIL A1/L406.
6. PIPE OULET AT BIOFILTRATION AREA INSTALL PER DETAIL E9/L406.
7. EX. DRAIN LINE CLEANOUT.
8. EX. SIDE OPENING CATCH BASIN.
9. EX. NYOPLAST CATCH BASIN.
10. EX. MAINTENANCE HOLE "EZ" LA CITY STD PLAN S-381-0.
11. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
12. EX. LANDFILL EQUIPMENT TO REMAIN. PROTECT IN PLACE.
13. EX. IRRIGATION EQUIPMENT TO REMAIN. PROTECT IN PLACE. REFER TO IRRIGATION PLANS.
14. CATCH BASIN @ V-GUTTER: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND STANDARD H20 RATED GRATE. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND J1/L406.
15. V-GUTTER @ EX. MAINTENANCE HOLE. INSTALL PER DETAILA9/L405.
16. NOT USED.
17. CATCH BASIN @ LANDSCAPE CURB/GUTTER: 12" NYLOPLAST DRAIN BASIN WITH 12" SQUARE PEDESTRIAN GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E1/L407.
18. CATCH BASIN @ BIOFILTRATION AREA: 30" NYOPLAST DRAIN BASIN WITH 30" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
19. CATCH BASIN @ CMB PAVING: 24" NYOPLAST INLINE DRAIN WITH 24" SQUARE ROAD & HIGHWAY IRON DUCTILE GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E13/L406.
20. INSTALL MITERED DRAIN OUTLET AND GRATE AT V-GUTTER.
21. HEADWALL. SEE DETAIL J1/L408.
22. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY. W=11.5'.
23. CATCH BASIN @ BIOFILTRATION AREA: 18" NYOPLAST DRAIN BASIN WITH 18" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
24. LANDFILL PROBE VAULT. INSTALL PER DETAIL A13/L409.
25. REPLACE VAULT LID. SEE CONSTRUCTION PLAN.





KEY MAP:

SCALE: 1" = 250'

SCALE: 1" = 20'

BUREAU OF ENGINEERING — OFFICIAL RECORD

DIGALERT — Call Toll Free 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — Underground Service Alert of Southern California

ENGINEERING — CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT. JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — 04/21/2021
DRAWN BY: GREG MOESER — 04/21/2021
CHECKED BY: RICHARD FISHER — 08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — 08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: GRADING AND DRAINAGE PLAN SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L303
SHEET 27 OF SHEETS 74

PLOTTED: 8/24/2021 3:15 PM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGNWORKING_DRAWINGS\L300-L306_GRADING.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/11/2021 12:53 PM

RETROPLOTTED (DESIGN STAGE ONLY)

GRADING NOTES:

1) ALL GRADING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE BCA INSPECTOR. THE CONTRACTOR MUST NOTIFY THE BCA INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY GRADING/CONSTRUCTION OPERATIONS.

2) THE PROJECT GEOTECHNICAL REPORT SHALL BE MADE AS PART OF THIS PLAN. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND GRADING OPERATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OF RECORD OR HIS DESIGNEE AS OUTLINED IN THE REPORT.

3) SURVEYING REQUIRED FOR VERTICAL AND HORIZONTAL ALIGNMENT MUST BE PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE AND PERFORMED PER THE GENERAL REQUIREMENTS. CONTRACTOR WILL BE PROVIDED WITH A DIGITAL SITE LAYOUT/GRADING PLAN IN AUTOCAD FORMAT. NO ADDITIONAL HORIZONTAL CONTROL PLAN WILL BE PROVIDED.

4) CONTRACTOR SHALL REMOVE ALL DEBRIS FROM EXISTING CATCH BASINS WITHIN THE PROJECT LIMIT OF WORK.

5) A COPY OF THE MOST RECENT VERSION OF THE APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE JOB SITE AT ALL TIMES.

6) WHEN REQUIRED BY CODE, SHORING FOR TRENCH EXCAVATIONS SHALL BE PROVIDED TO SATISFY STATE OF CALIFORNIA SAFETY REQUIREMENTS AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING AND OBTAINING ALL REQUIRED SHORING PERMITS.

7) THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION OPERATION UNTIL THE SUBGRADE HAS BEEN APPROVED BY THE GRADING INSPECTOR AND GEOTECHNICAL ENGINEER WHERE REQUIRED.

8) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE ON SURFACE FLOW AREAS AT 1% (MIN.) ON HARDSCAPE AND 2% (MIN.) ON SOIL GRADE UNLESS OTHERWISE INDICATED.

9) CONTRACTOR SHALL ASSUME STRAIGHT GRADE BETWEEN ELEVATION POINTS LISTED FOR FINISH GRADE OF NEW CONSTRUCTION UNLESS INSTRUCTED OTHERWISE.

10) FINISH GRADE OF PLANTING AREAS SHALL BE WITHIN A TOLERANCE OF .04 FEET (1/2") OF GRADING PLAN AS SHOWN. FINISH GRADE IN MULCHED PLANTING AREAS SHALL BE 1" BELOW TOP OF ADJACENT PAVING. ALL SOIL SURFACES SHALL BE BROUGHT TO A CONSISTENT GRADE, HAVING NO IRREGULARITIES, DEPRESSIONS, OR RIDGES TO THE SATISFACTION OF THE CITY ENGINEER. FINE GRADE ALL AREAS TO PROVIDE POSITIVE DRAINAGE AND SMOOTH, CONSISTENT GRADE TRANSITIONS.

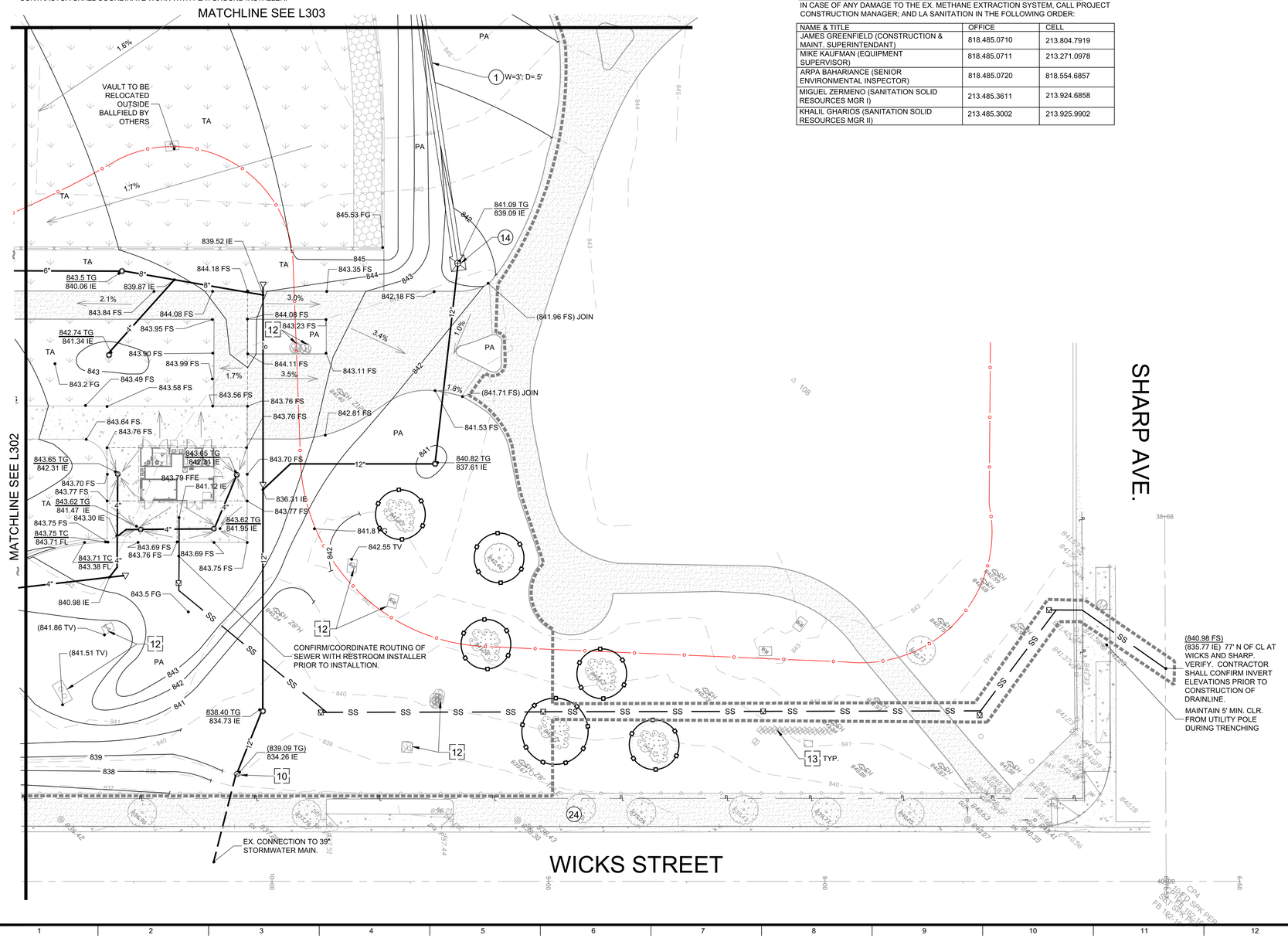
11) CONTRACTOR SHALL REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL DEBRIS AND EXCAVATED MATERIAL NOT REQUIRED FOR FILL. NO RUBBISH OR DEBRIS SHALL BE BURIED ON THE SITE.

12) ESTIMATED EARTHWORK QUANTITIES PROVIDED HEREIN TO BE USED FOR JURISDICTIONAL PLAN CHECKING AND PERMITTING ONLY. THE CONTRACTOR SHALL CALCULATE HIS OWN EARTHWORK QUANTITIES AS REQUIRED FOR BIDDING AND EXECUTION OF WORK. THE CITY IS NOT RESPONSIBLE FOR THE CONTRACTOR'S EARTHWORK CALCULATION.

13) THE ESTIMATED EARTHWORK DOES NOT CONSIDER THE REMOVAL OF ANY UNSUITABLE MATERIAL, AND THE REMOVAL OF EXISTING TOP SOIL OR VEGETATION. THE ESTIMATED EARTHWORK QUANTITIES DOES NOT INCLUDE SWELL/SHRINKAGE FACTORS. THE ESTIMATED EARTHWORK QUANTITIES ASSUME THAT ALL ON-SITE MATERIALS ARE SUIITABLE FOR BACKFILLING. HOWEVER, ACTUAL ON-SITE MATERIALS AND IMPORTED MATERIALS MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.

14) PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

15) RESILIENT SURFACING (AND PLAYGROUND EQUIPMENT) SHALL BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS AS NOTED PER PLAN. CONTRACTOR SHALL COORDINATE WORK WITH PLAYGROUND INSTALLER.



DRAINAGE SYSTEM NOTES

1. ALL CATCH NYOPLAST BASINS/INLINE DRAINS (EXCEPT IN THE PLAYGROUND AREA UNDER RESILIENT SURFACING) SHALL HAVE LOCKABLE GRATES WITH "NO DUMPING - DRAINS TO OCEAN" GRATE MARKER, AND FLEXSTORM INLET FILTERS (OR APPROVED EQUAL).
2. ALL NYOPLAST DRAIN BASINS SHALL BE INSTALLED WITH A SUMP INSERT. IN LIEU OF NYOPLAST DRAIN BASIN AND SUMP INSERT, CONTRACTOR MAY INSTALL A NYOPLAST INLINE DRAIN WITH ELBOW/TEE WHERE APPLICABLE PER MANUFACTURER'S INSTRUCTIONS.
3. THE DRAINAGE SYSTEM SHALL BE INSTALLED COMPLETE AND INCLUDE ALL FITTINGS/MATERIALS AS REQUIRED TO ENSURE WATER TIGHT JOINTS, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND THE LANDSCAPE CONSTRUCTION NOTES.
4. SUBGRADE AND BACKFILL FOR ALL NYOPLAST BASINS/DRAINS SHALL BE IN PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND LANDSCAPE CONSTRUCTION NOTES AND BE APPROVED BY THE GEOTECHNICAL ENGINEER.
5. MAINTAIN 1' MIN. COVER OVER DRAIN LINES.

ESTIMATED EARTHWORK*

ESTIMATED CUT = 4,762 CY

ESTIMATED FILL = 4,762 CY

OVER EX./RECOMPACTION = 4,827 CY

*REFER TO GRADING NOTES 12 AND 13.

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER; AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

ABBREVIATIONS

(173.2)	EXISTING GRADE
BC	BOTTOM OF CURB
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
FL	FLOW LINE
FS	FINISH SURFACE
GB	GRADE BREAK
HP	HIGH POINT
IE	INVERT ELEVATION
LP	LOW POINT
PA	PLANTING AREA
P_L	PROPERTY LINE
RE	RIM ELEVATION
TA	TURF AREA
TC	TOP OF CURB
TL	TOP OF LINER OF BIOFILTRATION AREA. SEE DETAIL J9/L406.
TV	TOP OF VAULT

LEGEND

- LIMIT OF WORK (OFFSET FOR CLARITY)
- PROPOSED CONTOUR
- EXISTING CONTOUR
- DIRECTION OF SURFACE FLOW
- ADS N12 STORM DRAIN PIPE. SIZED PER PLAN.
- 4" SDR-35 PVC PERFORATED DRAIN PIPE. SEE DETAIL J9/L406.
- EX. SDR-35 PVC PIPE TO REMAIN.
- SS — SEWER LINE. SHALL BE 4" ABS WITHIN PROPERTY LINE AND 6" VCP FROM PROPERTY LINE TO CONNECTION TO SEWER MAIN.
- DL — 3" ABS DRAIN PIPE.
- GRADE BREAK
- FLOW LINE
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- APPROXIMATE BOUNDARY OF FORMER LANDFILL (SUBSURFACE)
- LID BIOFILTRATION AREA. INSTALL PER DETAIL J9/L406 AND PLAN NOTES.
- CATCH BASIN @ TURF/LANDSCAPE AREA: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND LOCKABLE STANDARD H20 RATED GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS FOR "TURF TRAFFIC INSTALLATION" (WITH 8" THICK, 18" WIDE CONCRETE COLLAR ALLOWING FOR 6" SOIL MIN. IN TURF/PLANTING AREAS).
- CATCH BASIN @ RESILIENT SURFACING: 8" NYOPLAST DRAIN BASIN WITH 8" DROP-IN GRATE OR APPROVED EQUAL; WRAP GRATE WITH GEOTEX 351 FILTER FABRIC OR APPROVED EQUAL. CONTRACTOR TO PROVIDE/INSTALL CATCH BASIN WITH STUB OUT AND PROVIDE GRATE FOR FINAL GRATE INSTALLATION BY OTHERS.
- CATCH BASIN @ PEDESTRIAN PAVING: 8 1/2" HEAVY DUTY FLOOR DRAIN WITH DUCTILE IRON GRATE AND VANDAL PROOF LID, MODEL 2120 BY JAY. R. SMITH OR APPROVED EQUAL. INSTALL PER A9/L409 AND MANUFACTURER'S INSTRUCTIONS.
- STORM DRAIN CLEANOUT. INSTALL PER DETAIL A5/L407.
- SEWER CLEANOUT. INSTALL PER CITY STD DETAIL S-164-0. SEE LANDSCAPE CONSTRUCTION NOTES.

(#) CONSTRUCT [#] EXISTING-PROTECT IN PLACE

KEYNOTES

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5. SPLASH ROCK SWALE AT V-GUTTER. SEE DETAIL A1/L406.
6. PIPE OULET AT BIOFILTRATION AREA INSTALL PER DETAIL E9/L406.
7. EX. DRAIN LINE CLEANOUT.
8. EX. SIDE OPENING CATCH BASIN.
9. EX. NYOPLAST CATCH BASIN.
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11. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
12. EX. LANDFILL EQUIPMENT TO REMAIN. PROTECT IN PLACE.
13. EX. IRRIGATION EQUIPMENT TO REMAIN. PROTECT IN PLACE. REFER TO IRRIGATION PLANS.
14. CATCH BASIN @ V-GUTTER: 24" NYOPLAST DRAIN BASIN WITH 24" ROUND STANDARD H20 RATED GRATE. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND J1/L406.
15. V-GUTTER @ EX. MAINTENANCE HOLE. INSTALL PER DETAILA9/L405.
16. NOT USED.
17. CATCH BASIN @ LANDSCAPE CURB/GUTTER: 12" NYLOPLAST DRAIN BASIN WITH 12" SQUARE PEDESTRIAN GRATE OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND DETAIL E1/L407.
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20. INSTALL MITERED DRAIN OUTLET AND GRATE AT V-GUTTER.
21. HEADWALL. SEE DETAIL J1/L408.
22. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
23. CATCH BASIN @ BIOFILTRATION AREA: 18" NYOPLAST DRAIN BASIN WITH 18" LOCKABLE DOME GRATE OR APPROVED EQUAL. INSTALL WITH "NON-TRAFFIC" INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
24. LANDFILL PROBE VAULT. INSTALL PER DETAIL A13/L409.
25. REPLACE VAULT LID. SEE CONSTRUCTION PLAN.

BUREAU OF ENGINEERING — OFFICIAL RECORD

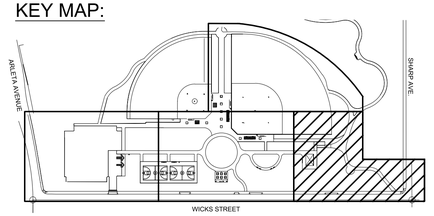
DIGALERT — Call Toll Free 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG! Underground Service Alert of Southern California

N

0 10' 20' 40'

SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

ENGINEERING — CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
ARCHITECTURAL DIVISION	LIC. NO.: 3940	04/21/2021
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

LANDSCAPE ARCHITECT JANE ADRIAN — LICENSED — No. 3940 — 10-31-21 — 04-05-21 — STATE OF CALIFORNIA

CITY OF LOS ANGELES

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: GRADING AND DRAINAGE PLAN SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L304

SHEET 28 OF SHEETS 74

PLOTTED: 8/24/2021 3:14 PM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L300-L306_GRADING.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/11/2021 12:53 PM

REVISION DATES (DESIGN STAGE ONLY)

STORMWATER OBSERVATION REPORT FORM
(Residential ≥ 5 units & All other Development)

LOW IMPACT DEVELOPMENT

IN THE EVENT THAT THE APPROVED STORMWATER BMP CANNOT BE BUILT PER PLANS (OR ANY MODIFICATION), CONSULT WITH BUREAU OF SANITATION STAFF PRIOR TO ANY PLAN MODIFICATIONS. FAILURE TO DO SO MAY DELAY OBTAINING A FINAL APPROVAL AND CERTIFICATE OF OCCUPANCY (C OF O).

STORMWATER OBSERVATION *means the visual observation of the stormwater related Best Management Practices (BMPs) for conformance with the approved LID Plan at significant construction stages and at completion of the project. Stormwater observation does not include or waive the responsibility for the inspections required by Section 108 or other sections of the City of Los Angeles Building Code.*

STORMWATER OBSERVATION *must be performed by the engineer or architect responsible for the approved LID Plan or designated staff in their employment.* ***As part of the observation, provide photos of the BMPs taken during various construction phases.***

STORMWATER OBSERVATION REPORT *must be signed and stamped (see below) by the engineer or architect responsible for the approved LID Plan and submitted to the city prior to the issuance to the certificate of occupancy.* ***PRIOR TO CERTIFICATE OF OCCUPANCY (C of O), SOR FORM, PRINTED PHOTOS OF THE BMPS TAKEN DURING VARIOUS CONSTRUCTION PHASES AND APPROVED STAMPED PLANS BY THE BUREAU OF SANITATION MUST BE SUBMITTED TO THE PUBLIC COUNTER FOR STAFF APPROVAL.***

Project Address: 12455 WICKS STREET, LOS ANGELES, CA 91352	Building Permit No.:
Name of Engineer/Architect responsible for the approved LID Plan: JANE ADRIAN	Phone Number: 213-485-4845

List all BMPs installed as part of the project: Coordinates of the most significant (or typical) BMPs:

BMP Type: Biofiltration # of units: 2 Lat: 34.225008 N ; Long: -118.406530 W ***Ex: Lat: 34.04152; Long: -118.25962 (5 sig digits)***	BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____
BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____	BMP Type: _____ # of units: _____ Lat: _____ ; Long: _____

I DECLARE THAT THE FOLLOWING STATEMENTS ARE TRUE TO THE BEST OF MY KNOWLEDGE:

1. I am the engineer or architect responsible for the approved LID Plan, and;
2. I, or designated staff under my responsible charge, has preformed the required site visits at each significant construction stage and at the completion to verify that the Best Management Practices (BMPs) as shown on approved plans have been constructed and installed in accordance with the approved LID Plan.

Wet Stamp of Engineer or Architect

Signature Date

Low Impact Development (LID)
Post Construction Stormwater Mitigation
Best Management Practices (BMPs)

STORMWATER BMP(s) VERIFICATION

Upon LADBS Inspector Verification that approved stormwater BMPs are in place, a Stormwater Observation Report (SOR) Form shall be submitted to Department of Public Works, Bureau of Sanitation. 201 N. Figueroa, 3rd floor, station 18.

Project Address: 12455 WICKS STREET, LOS ANGELES, CA 91352

RESIDENTIAL (4 UNITS OR LESS, <10,000 SF, <2,500 SF within a ESA)

Item #	Stormwater BMP	Description (Units, total)	Reference Sheet(s)* (Sheet #)
1	Rain Tank(s) – 50 to 129 gal each		
2	Rain Tank(s) – > 130 gal min		
3	Shade Tree - min 15 gal		
4	Flow thru Planter(s)		
5	Permeable pavers / Porous concrete (min 10% open space)	☐ Incidental; _____ total SF ☐ Infiltration; _____ total SF	
6	Rain Garden	☐ #____ - Lined; _____ total SF ☐ #____ - Unlined; _____ total SF	
7	Dry Well		
8	SUMP Pump (modification was not required)		

ALL OTHER DEVELOPMENT
(Residential: 5 ≥ units, 10,000 ≥ SF, within a ESA and ≥2,500SF)

	Item #	Stormwater BMP	Description (Units, total)	Reference Sheet(s)* (Sheet #)
Infiltration	1	Infiltration Basin / Trench		
	2	Dry Well		
	3	Permeable pavers / Porous concrete (min 10% open space)	☐ Incidental; _____ total SF ☐ Infiltration; _____ total SF	
Capture & Use	4	Rain Tank(s) – 530 gal min		
	5	Cistern	☐ Above Grade ☐ Below Grade	
Treat & Discharge	6	Flow thru Planter(s)		
	7	Biofiltration	☒ # 2 - Lined; _____ total SF ☐ #____ - Unlined; _____ total SF	L301, L302
	8	Vegetative Swale / Filter Strip		
	9	Catch Basin Filter(s)		
	10	Trench Drain Filter(s)		
	11	Down Spout Filter(s)		
	12	SUMP Pump (modification was not required)		

* At a minimum: Site Plan, Architectural Elevations, Roof Plan, Civil Sheets and Detail

LOW IMPACT DEVELOPMENT LEGEND/CALCULATIONS

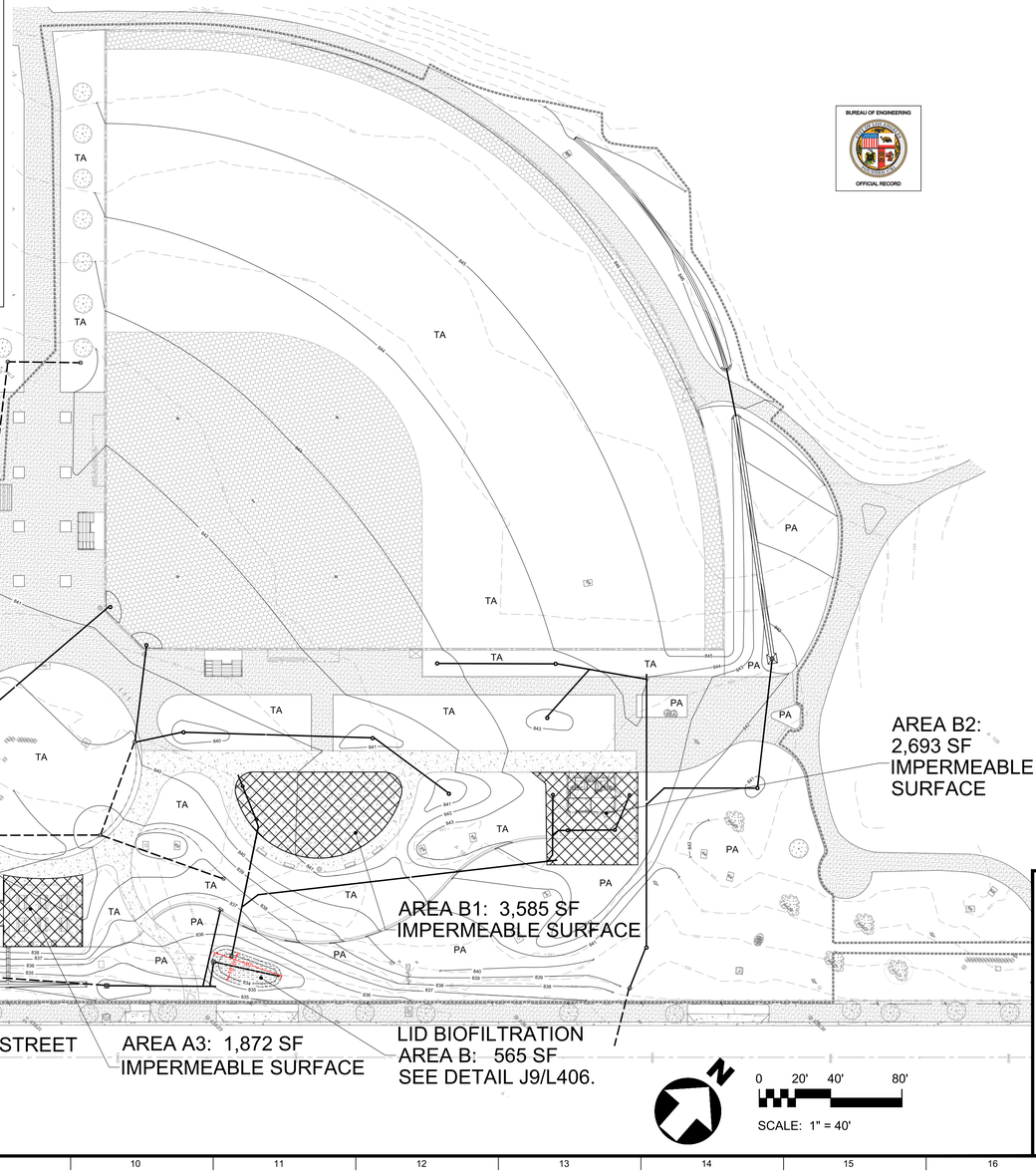
AREA	IMPERVIOUS	PERVIOUS	TOTAL	BMP	Vm x1.5	VOLUME OF BMP	AREA OF BMP	PONDING DEPTH	UNTREATED AREAS
A	26,271 SF	4,394 SF	30,665 SF	BIOFILTRATION	3,312 cu-ft	3,404 cu-ft	1,776 SF	18"	1,145 SF
B	6,278 SF	0 SF	6,278 SF	BIOFILTRATION	780 cu-ft	799 cu-ft	565 SF	12"	N/A
TOTAL	32,549 SF	4,394 SF	36,943 SF	BIOFILTRATION	4,092 cu-ft	4,203 cu-ft	2,341 SF		1,145 SF

NOTES:

1. ANY CHANGES (TYPE, SIZE, LOCATION) TO APPROVED STORMWATER BEST MANAGEMENT PRACTICE(S) (BMPS) MUST OBTAIN WRITTEN APPROVAL FROM LOS ANGELES DEPARTMENT OF PUBLIC WORKS, BUREAU OF SANITATION PRIOR TO CONSTRUCTION OF BMP(S).
2. FINAL LAYOUT/CONTOURS OF STORMWATER BEST MANAGEMENT PRACTICE(S) (BMPS) MUST BE APPROVED PRIOR TO INSTALLATION OF LINER. ALL STAGES OF CONSTRUCTION OF BMPS SHALL BE OBSERVED AND PHOTOGRAPHED BY LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO CONSTRUCTION.

ABBREVIATIONS

PA PLANTING AREA
TA TURF AREA



BUREAU OF ENGINEERING
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ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
JANE M. ADRIAN
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

ARCHITECTURAL DIVISION	LIC. NO.: 3940	DATE:	
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021	
DESIGNED BY: GREG MOESER		04/21/2021	
DRAWN BY: GREG MOESER		04/21/2021	
CHECKED BY: RICHARD FISHER		04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021	

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: LID PLAN

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L305
SHEET 29 OF SHEETS 74

PLOTTED: 8/24/2021 3:10 PM

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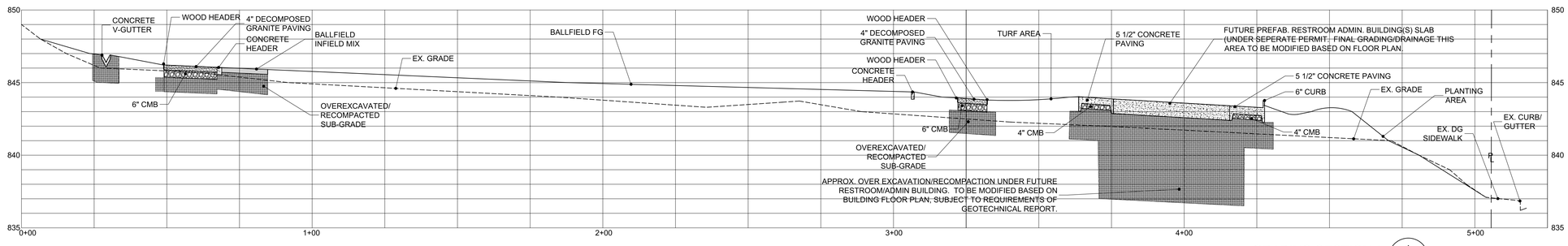
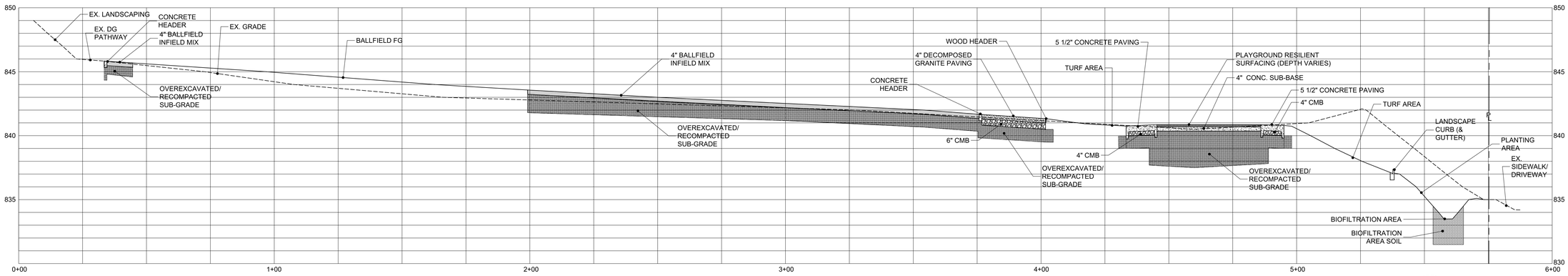
SHEET ISSUE DATE: 8/11/2021 12:53 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L300-L306_GRADING.DWG

REVISION DATES (DESIGN STAGE ONLY)



GRADING SECTION 1 (1 / L300)
SCALE: HOR 1"=20' VER 1"=4'



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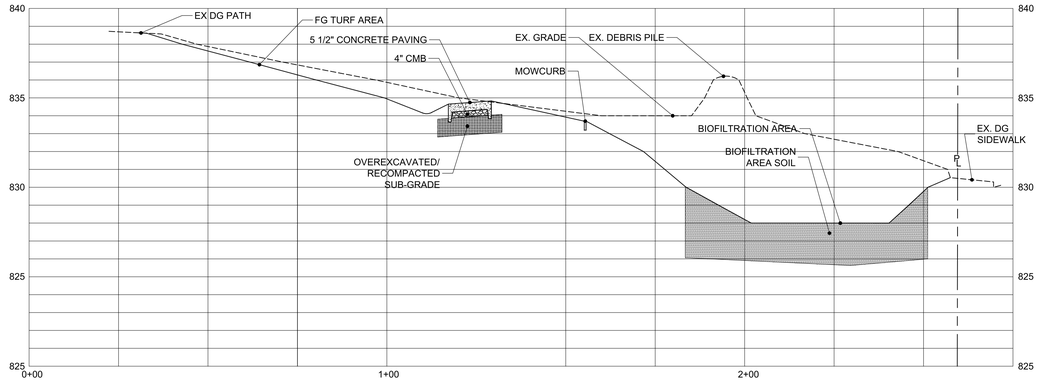

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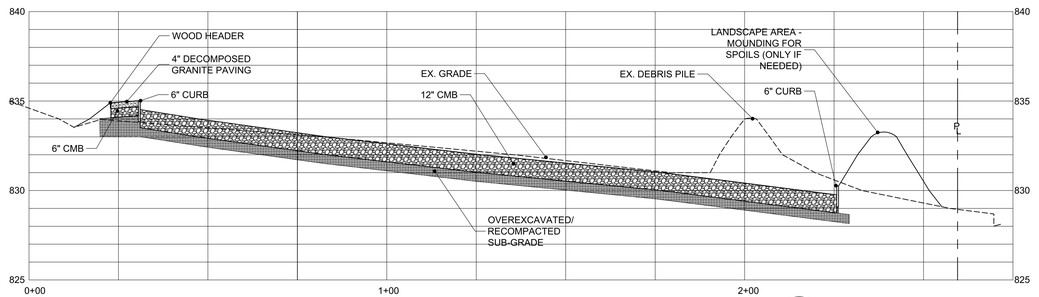

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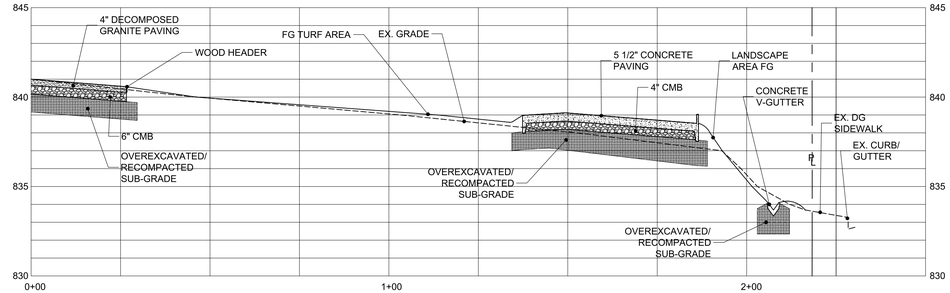

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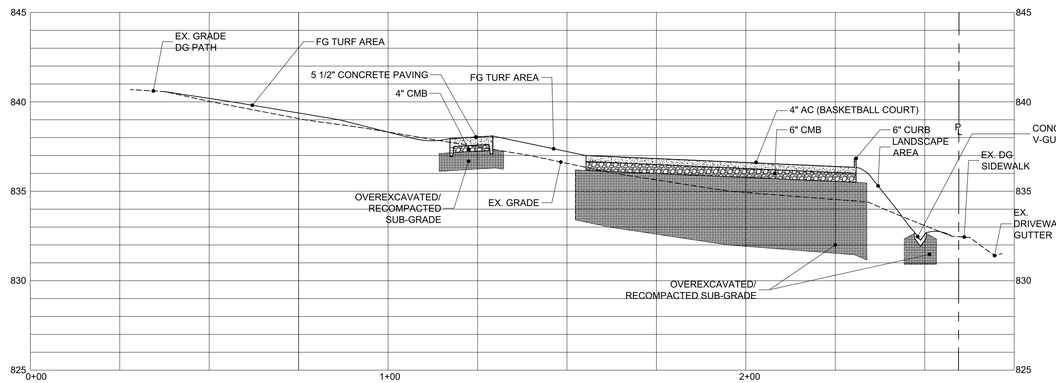

GRADING SECTION 4 (4 / L300)
SCALE: HOR 1"=20' VER 1"=4'

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CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
JANE M. ADRIAN
NO. 3940
10-31-21
RENEWAL DATE
04-05-21
DATE
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LANDSCAPE ARCHITECT: JANE ADRIAN LIC. NO.: 3940 DATE: 04/21/2021
DESIGNED BY: GREG MOESER 04/21/2021
DRAWN BY: GREG MOESER 04/21/2021
CHECKED BY: RICHARD FISHER 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT 08/05/2021

CITY OF LOS ANGELES

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: GRADING SECTIONS

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L306
SHEET 30 OF SHEETS 74

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SHEET ISSUE DATE: 8/11/2021 12:53 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L300-L306_GRADING.DWG

REVISION DATES (DESIGN STAGE ONLY)

PREFAB RESTROOM NOTES:

1. PREFABRICATED RESTROOM/OFFICE TO BE PROVIDED/INSTALLED BY OTHERS. CONTRACTOR TO COORDINATE AND SCHEDULE WORK WITH RESTROOM MANUFACTURER/INSTALLER.
2. AS PART OF BASE BID, CONTRACTOR SHALL ENGAGE THE SERVICES OF A CA LICENSED ENGINEER WITH EXPERIENCE IN DESIGNING METHANE ZONE MITIGATION SYSTEMS TO DEVELOP A METHANE MITIGATION DESIGN FOR THE PRE-FABRICATED RESTROOM/OFFICE BUILDING INCLUDING COMPLETE PLANS AND DETAILS AND ENGINEERING AND OBSERVATION SERVICES AS REQUIRED FOR CONSTRUCTION TO SATISFY THE METHANE MITIGATION REQUIREMENTS NOTED IN SUPPLEMENTAL GEOTECHNICAL REPORT DATED MARCH 12, 2020. PREFABRICATED RESTROOM/OFFICE ARCHITECTURAL PLANS SHALL BE PROVIDED BY OTHERS. THE METHANE MITIGATION SYSTEM SHALL BE INSTALLED BY OTHERS.
3. CONTRACTOR SHALL PROVIDE FINISH FLOOR ELEVATION TO RESTROOM INSTALLER BASED ON GRADING PLAN INCLUDING A BENCHMARK AND OFFSETS FOR BUILDING CORNERS. CONTRACTOR TO PROVIDE RESTROOM PAD PER DETAIL A5/L409.
4. CONTRACTOR SHALL PROVIDE SEWER AND WATER AS NOTED PER PLAN STUBBED OUT TO WITHIN 6' OUTSIDE OF BUILDING LOCATION. SEE GRADING, IRRIGATION, AND ELECTRICAL PLANS.
5. CONTRACTOR TO PROVIDE AND CONNECT ELECTRICAL SERVICE TO RESTROOM ELECTRICAL SERVICE PANEL (PROVIDED BY RESTROOM INSTALLER). WITHIN 6' OF RESTROOM, 2" ELECTRICAL CONDUIT WILL BE PROVIDED BY RESTROOM INSTALLER. SEE ELECTRICAL PLANS.

PLAYGROUND NOTES:

1. PLAYGROUND EQUIPMENT, AND RESILIENT SURFACING AND CONCRETE SUB-BASE TO BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS IN ACCORDANCE WITH THE GRADING PLAN.

BLEACHER/SLAB NOTES:

1. BLEACHERS AND SLABS BY OTHERS, NOT IN SCOPE. CONTRACTOR SHALL PROVIDE PREPARED SUBGRADE IN ACCORDANCE WITH GEOTECH REPORT. SEE S104 FOR REFERENCE. CONTRACTOR TO COORDINATE WITH INSTALLER AND PROVIDE FINISH SURFACE ELEVATIONS TO INSTALLER BASED ON GRADING PLAN INCLUDING A BENCHMARK/OFFSETS FOR SLAB CORNERS.

CONSTRUCTION NOTES:

1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH PROJECT MANAGER TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. SEE GENERAL CONDITIONS AND GENERAL REQUIREMENTS.
2. CONSTRUCTION SIGN SHALL BE INSTALLED WITHIN TWO WEEKS OF THE START OF CONSTRUCTION. OBTAIN PROJECT MANAGER'S APPROVAL FOR SIGN LOCATION AND FINAL TEXT PRIOR TO FABRICATION AND INSTALLATION. SEE LANDSCAPE CONSTRUCTION NOTES AND CONSTRUCTION SIGN DETAIL.
3. LIMIT OF WORK IS AT PROPERTY LINE UNLESS OTHERWISE NOTED HEREIN.
4. ALL EXISTING R.O.W. CONCRETE SIDEWALK, STREET TREES, LIGHT FIXTURES/WIRING AND DRAINAGE FIXTURES, ETC. ARE TO BE PROTECTED IN PLACE PER LANDSCAPE CONSTRUCTION NOTES UNLESS OTHERWISE NOTED.
5. ALL EXISTING SITE FEATURES SHOWN TO REMAIN OR LOCATED OUTSIDE THE LIMIT OF WORK SHALL BE PROTECTED IN PLACE.
6. ADJACENT FENCING AND C.M.U. WALLS OUTSIDE OF PROPERTY LINE SHALL BE PROTECTED IN PLACE AND NOT DISTURBED WITHOUT PROPERTY OWNERS WRITTEN PERMISSION.
7. ANY NEW CONSTRUCTION LOCATED WITHIN THE PROTECTED ROOT AREA OF AN EXISTING TREE IS SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE LANDSCAPE CONSTRUCTION NOTES. SEE L100. PRIOR TO ANY CONSTRUCTION, CONTRACTOR SHALL HAVE ALL REQUIRED TREE PROTECTION ZONE FENCING IN PLACE.
8. ALL MATERIAL AND WORK SHOWN ON THIS PLAN SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
9. LAYOUT AND STAKING OF ALL PROJECT ELEMENTS SHALL BE DONE BY A LICENSED SURVEYOR PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE. DIGITAL PLAN FILES SHALL BE PROVIDED BY CITY TO FACILITATE LAYOUT. FINAL LAYOUT AND LOCATION OF ALL PROJECT ELEMENTS SHALL BE REVIEWED AND APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION. CONTRACTOR SHALL REQUEST REVIEW AND APPROVAL OF LAYOUT FOR ANY PROJECT ELEMENTS 48 HOURS MINIMUM IN ADVANCE. SEE LANDSCAPE CONSTRUCTION NOTES.
10. PAVING, MASONRY AND CONCRETE INSTALLERS ARE TO COORDINATE WITH THE ELECTRICAL, DRAINAGE AND IRRIGATION INSTALLER/SUBCONTRACTORS FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS PRIOR TO INSTALLATION OF HARDSCAPE ELEMENTS.
11. PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

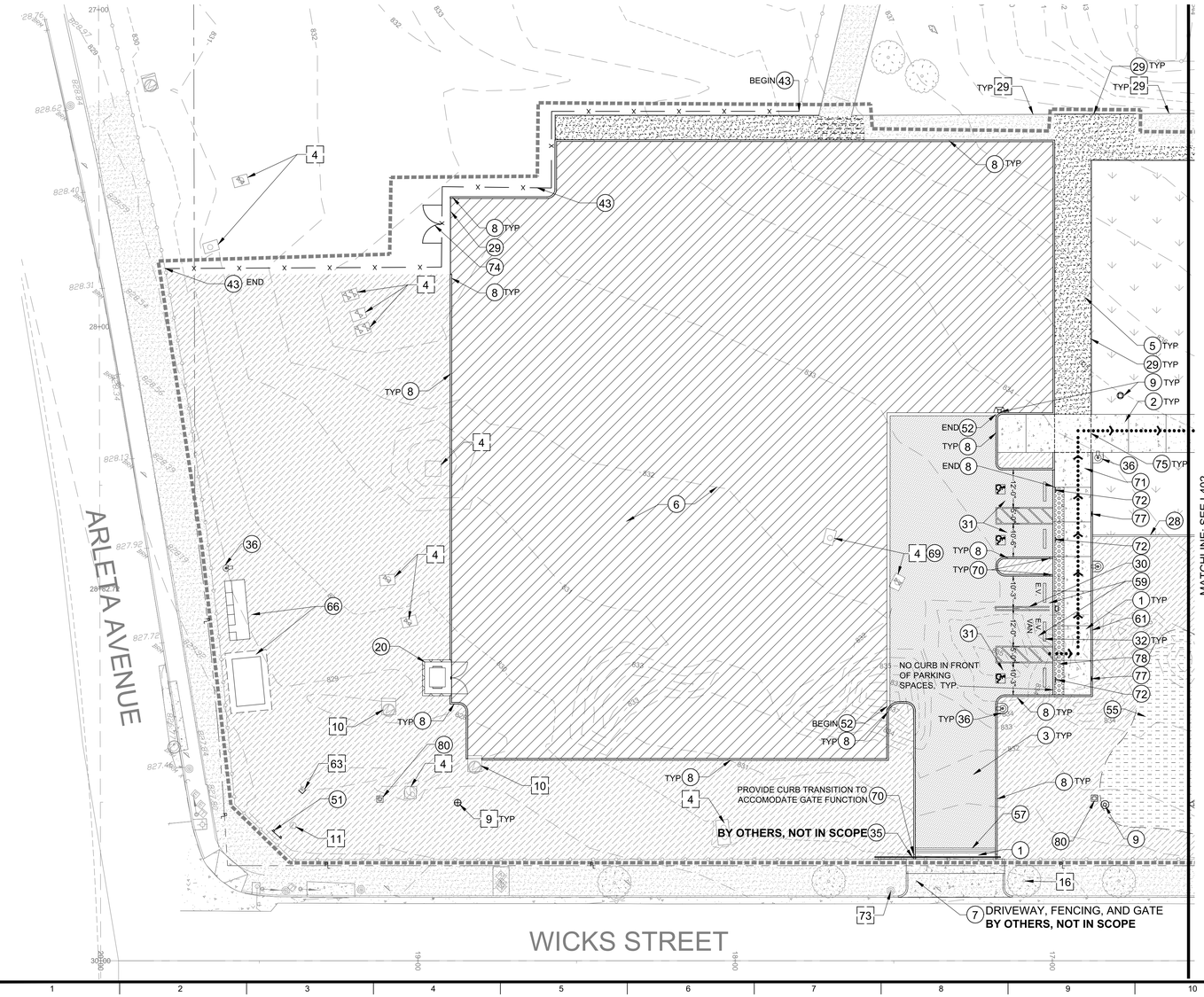
LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER; AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

HARDSCAPE ALTERNATIVES
- GREEN BUILDING CODE COMPLIANCE

HARDSCAPE TYPE	AREA	SOLAR REFL.	%
NATURAL GRAY CONC.	17,309 SF	.39	42.1%
PLAYGROUND SURF.	3,585 SF	.30 (MIN.)	8.7%
ASPHALT	20,204 SF	.05	49.1%
TOTAL	41,098 SF		100%
% OF HARDSCAPE WITH INITIAL SOLAR REFLECTANCE ≥.3			50.8%



CONSTRUCTION LEGEND:

EXISTING-PROTECT IN PLACE (#) CONSTRUCT (#)-[#] REMOVE AND RECONSTRUCT

- CONSTRUCT CONCRETE PAVING. COLOR: NATURAL GRAY. MED. BROOM FINISH. SEE DETAIL J13/L406.
- EX. CONCRETE PAVING. PROTECT IN PLACE.
- DECOMPOSED GRANITE PAVING. SEE A1/L405.
- EX. DECOMPOSED GRANITE PAVING (DG). REMOVE 1.5"-2" OF EX. DG. INSTALL NEW DG TO MEET NEW GRADES NOTED ON GRADING PLAN.
- EX. DECOMPOSED GRANITE PAVING TO REMAIN. PROTECT INPLACE.
- CMB PAVING. INSTALL 12" OF CMB OVER SUBGRADE PREPARED IN ACCORDANCE WITH GEOTECHNICAL REPORT. SEE KEYNOTE 6.
- AC PAVING. SEE E9/L405.
- (2) BASKETBALL COURTS WITH ASPHALT PAVING, STRIPING AND (4) GOALS. INSTALL PER DETAILS E13/L405, J1/L407, AND J5/L407.
- BALLFIELD INFIELD MIX. INSTALL PER LANDSCAPE CONSTRUCTION NOTES.
- PLAYGROUND RESILIENT SURFACING. CONTRACTOR TO PROVIDE COMPACTED SUBGRADE 7.5" BELOW ADJACENT CONCRETE WALK ELEVATIONS; CONCRETE SUB-BASE AND RESILIENT SURFACING BY OTHERS. SEE NOTES AND A5/L405.
- DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
- LID BIOFILTRATION AREA. SEE GRADING PLAN.
- TURF. SEE L701-L704.
- PLANTING/MULCH AREA. SEE L701-L704.
- EX. PULLBOX/VALVE BOX. PROTECT IN PLACE , REFER TO ELECTRICAL AND IRRIGATION PLANS FOR NEW PULLBOX/VALVE BOX LOCATIONS.
- EX. TREE TO REMAIN. PROTECT IN PLACE.
- LIMIT OF WORK (OFFSET FOR CLARITY)
- EX. CHAINLINK FENCING TO REMAIN PROTECT IN PLACE.
- EX. TUBULAR STEEL FENCING TO REMAIN. PROTECT IN PLACE.
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- ADA PATH OF TRAVEL

KEYNOTES

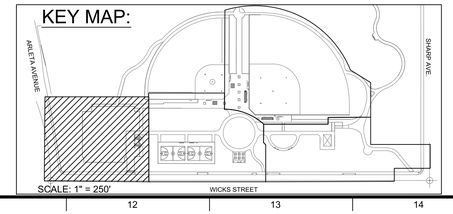
1. CONCRETE PAVING. NATURAL GRAY; MED. BROOM FINISH. SEE DETAIL J13/L405.
2. CONTROL JOINT. SEE DETAIL J13/L405.
3. AC PAVING. SEE DETAIL E9/L405.
4. EX. LANDFILL EQUIPMENT, VAULT, STANDPIPE, PROBE.
5. DECOMPOSED GRANITE PAVING WITH WOOD HEADER. SEE DETAIL A1/L405.
6. CMB PAVING. INSTALL 12" OF CMB COMPACTED TO 95%, OVER SUBGRADE PREPARED IN ACCORDANCE WITH GEOTECHNICAL REPORT.
7. DRIVEWAY. (BY OTHERS, NOT IN SCOPE).
8. CONCRETE CURB. INSTALL PER DETAIL E5/L407.
9. CATCH BASIN. REFER TO GRADING PLANS.
10. EX. SIDE INLET CATCH BASIN, CITY STD DETAIL S-351-1.
11. EX. DRAIN LINE CLEANOUT.
12. V-GUTTER. INSTALL PER DETAIL E5/L405. REFER TO GRADING PLANS.
13. (2) BARBEQUE GRILLS. INSTALL PER DETAIL E5/L408.
14. EX. BACKFLOW PREVENTION DEVICE.
15. EX. IRRIGATION VALVE BOXES. REFER TO IRRIGATION PLANS FOR NEW PULLBOX/VALVE BOX LOCATIONS.
16. EX. TREE.
17. EX. SHRUB.
18. 8' HIGH PEDESTRIAN GATE. (WORK BY OTHERS, NOT IN SCOPE.)
19. PREFABRICATED RESTROOM/ADMIN BUILDING. CONTRACTOR SHALL PREPARE RESTROOM PAD PER DETAIL A5/L409. SEE ADDITIONAL PLAN NOTES. (BUILDING PROVIDED BY OTHERS, NOT IN SCOPE).
20. TRASH ENCLOSURE. INSTALL PER DETAIL E5/L413. (SEPARATE PERMIT, CITY TO PROVIDE RTI PLANS).
21. PLAY STRUCTURE. (WORK BY OTHERS). SEE NOTES AND L801.
22. SHADE STRUCTURE. SEE L802, (UNDER SEPARATE PERMIT, CITY TO PROVIDE RTI PLANS).
23. (2) BASKETBALL COURTS WITH ASPHALT PAVING, STRIPING AND (4) GOALS. INSTALL PER DETAILS E13/L405, J1/L407, AND J5/L407.
24. (6) CONCRETE PICNIC TABLES. MODEL #100FSS W/ROUND LEGS AND LOS ANGELES PARK PROUD LA LOGO BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106. SEE DETAIL A13/L407.
25. (8) CONCRETE BENCHES. MODEL #408 W/ BACK, ARMRESTS AND LOS ANGELES PARK PROUD LA LOGO BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106. SEE DETAIL A9/L407.
26. (7) BICYCLE RACKS. INSTALL PER DETAIL A5/L408.
27. (2) DRINKING FOUNTAINS WITH CONCRETE PAD. INSTALL PER DETAIL E5/L409.
28. CONCRETE HEADER. INSTALL PER DETAIL J13/L407.
29. HEADER. INSTALL PER DETAILS A1/L405 AND E13/L411.
30. PARKING SPACE STRIPING. INSTALL PER DETAIL J9/L408.
31. ADA PARKING SPACE. INSTALL PER DETAIL J13/L408.
32. CONCRETE WHEEL STOP. INSTALL PER DETAIL E13/L408, J13/L408, AND E9/L408.
33. (6) TRASH CANS. PROVIDE AND INSTALL (6) KEYSTONE RIDGE MODEL RE3D-55 "READING" ROUND LITTER RECEPTACLES; SIDE ACCESS DOOR WITH LOCK TABS, SURFACE MOUNT PER MANUFACTURER'S INSTRUCTIONS, FLAT LID-NO LINER. COLOR: QUICKSILVER PCSS/90416, OR APPROVED EQUAL. SEE DETAIL J13/L411.
34. NOT USED.
35. 8' CANTILEVERED VEHICULAR GATE. (BY OTHERS, NOT IN SCOPE).
36. LIGHT FIXTURE. INSTALL WITH HEADER IN TURF AREAS PER DETAIL A1/L409. REFER TO ELECTRICAL PLANS FOR LIGHT LOCATIONS/QUANTITY.
37. (2) BLEACHERS ON CONCRETE SLAB (BY OTHERS, NOT IN SCOPE). CONTRACTOR TO PROVIDE PREPARED SUBGRADE, SEE NOTES, THIS SHEET.
38. 30' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL ON L412.
39. 20' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL ON L412.
40. 10' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL J5/L410.
41. 4' HIGH DOUBLE-LEAF CHAIN LINK GATE W/ PROTECTIVE COVER. INSTALL PER E13/L410.
42. (3) BASE PADS, (1) HOME PLATE AND (1) PITCHERS RUBBER. SCHUTT HOLLYWOOD HOME PLATE SKU#1236484; HOLLYWOOD IMPACT BASES W/GROUND ANCHORS AND RUBBER PLUGS SKU#036930 AND SKU#1236507; MACGREGOR STEP DOWN PITCHER'S RUBBER SKU#BBPRPROX. AVAILABLE FROM BSN PORTS (800) 856-3488.
43. 6' HIGH CHAINLINK FENCE. SEE DETAIL A1/L408.
44. (2) BAT RACKS. MODEL BR-8 AVAILABLE FROM LA STEELCRAFT, 800 371-2438. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
45. INFIELD STORAGE BOX. INSTALL PER DETAIL J1/L410.
46. (1) CONCRETE HOT COAL CONTAINER MODEL 300 CR BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106.
47. (2) 21' PLAYERS BENCHES, MODEL 1119-21G FROM PW ATHLETIC. CONTACT (800) 687-5768. INSTALLED IN-GROUND PER MANUFACTURER'S INSTRUCTIONS.
48. (2) DUGOUTS. INSTALL PER DETAIL A1/L410.
49. PLAYGROUND RESILIENT SURFACING. CONTRACTOR TO PROVIDE COMPACTED SUBGRADE 7.5" BELOW ADJACENT CONCRETE WALK FS; CONCRETE SUB-BASE AND RESILIENT SURFACING BY OTHERS. SEE DETAIL A5/L405.
50. 8' CHAIN LINK FENCE WITH 6" CURB. SEE DETAILS E13/L405 AND J9/L410.
51. CONSTRUCTION SIGN. SEE DETAIL J1/L405.
52. CONCRETE HEADER AT ASPHALT PAVING. SEE DETAIL E13/L407.
53. 4' HIGH CHAINLINK FENCE W/PROTECTIVE COVER. SEE DETAIL J13/L410.
54. CONCRETE HEADER AT BALLFIELD FENCE. SEE DETAIL E13/L407.
55. LID BIOFILTRATION AREA. SEE GRADING PLAN.
56. CURB OPENING/SPASH BLOCK @ V-GUTTER. INSTALL PER DETAIL A1/L406.
57. TRENCH DRAIN. INSTALL PER DETAIL J13/L406.
58. SPLASH ROCK SWALE AT BIOFILTRATION AREA. SEE DETAIL E1/L406.
59. ELECTRIC VEHICLE CHARGING STATION, PARKING SPACE, AND SIGN. INSTALL PARKING SPACE AND SIGN PER DETAIL E9/L408. REFER TO ELECTRICAL PLANS.
60. BALLFIELD INFIELD MIX. REFER TO LANDSCAPE CONSTRUCTION NOTES.
61. CURB AT CONCRETE PAVING. INSTALL PER DETAIL A1/L407.
62. EX. MANHOLE "EZ" LA CITY STD PLAN S-381-0. W/DRAIN INLET/GRATE.
63. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
64. V-GUTTER @ CATCH BASIN. INSTALL PER DETAIL J1/L406.
65. V-GUTTER @ EX. MANHOLE. INSTALL PER DETAIL A9/L405.
66. ELECTRICAL TRANSFORMER AND SWTICHBOARD. REFER TO ELECTRICAL PLANS.
67. (2) 20' BASELINE FOUL/FAIR POLES (1 PAIR). MODEL FLP-20 FROM LA STEELCRAFT (626) 798-7401. USE IN LIEU OF FENCE POST AT FOUL LINE.
68. LANDSCAPE AREA CURB/GUTTER. INSTALL PER DETAIL J9/L407.
69. (5) 2'x4' TRAFFIC RATED, NON-SLIP, STAINLESS STEEL VAULT COVERS. FIELD VERIFY.
70. INSTALL CURB TRANSITION. SEE DETAIL E9/L407.
71. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
72. (3) ACCESSIBLE PARKING SIGNS. SEE DETAILS A13/L408 AND J13/L408.
73. EX. UTILITY POLE.
74. 6' HIGH DOUBLE-LEAF CHAINLINK GATE. SEE DETAIL A13/L411.
75. DOWELED EXPANSION JOINT. SEE DETAIL E1/L405.
76. HEADWALL. INSTALL PER GRADING PLAN AND DETAIL J1/L408.
77. TOW SIGN (2 TOTAL). INSTALL PER DETAIL A13/L408.
78. DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
79. PROVIDE AND INSTALL RUBBERCAL ECO-SPORT 1" INTERLOCKING RUBBER SURFACING TILES OR APPROVED EQUAL OVER (8) EX. 2' x 4' VAULTS. TRIM TO FIT TILE FOR VAULT HANDHOLDS/BOLTS , FIELD VERIFY. EPOXY TO VAULT LID PER MANUFACTURER'S INSTRUCTIONS. COLOR: GREEN. CONTACT (844) 782-2374. CONTRACTOR MAY REPAIR ON APPROVAL OF LANDSCAPE ARCHITECT.
80. (5) LANDFILL PROBE VAULTS. INSTALL PER DETAIL A13/L409.

LADBS NOTES:

1. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
2. IF A GAS LINE IS INSTALLED, AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWNSTREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING. (INCLUDES COMMERCIAL ADDITION AND TI WORK OVER $10,000.) (SEPARATE PLUMBING PERMIT IS REQUIRED).
3. PROVIDE ULTRA-LOW FLUSH WATER CLOSETS FOR ALL NEW CONSTRUCTION.
4. A COPY OF THE EVALUATION REPORT AND/OR CONDITIONS OF LISTING SHALL ME MADE AVAILABLE AT THE JOB SITE.

BUREAU OF ENGINEERING
OFFICIAL RECORD

KEY MAP:



DIGALERT
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TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert of Southern California

0 10' 20' 40'
SCALE: 1" = 20'

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CITY OF LOS ANGELES ENGINEERING

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LANDSCAPE ARCHITECT: JANE ADRIAN LIC. NO.: 3940 DATE: 04/21/2021
DESIGNED BY: GREG MOESER 04/21/2021
DRAWN BY: GREG MOESER 04/21/2021
CHECKED BY: RICHARD FISHER 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT 08/05/2021

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT JANE M. ADRIAN No. 3940 Renewal 04-05-21 Date STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION PLAN SHEET 1
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L401
SHEET 31 OF SHEETS 74

PLOTTED: 8/24/2021 3:18 PM

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/13/2021 3:18 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L401 - L404_CONSTRUCTION.DWG

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES: (DESIGN STAGE ONLY)

PREFAB RESTROOM NOTES:

1. PREFABRICATED RESTROOM/OFFICE TO BE PROVIDED/INSTALLED BY OTHERS. CONTRACTOR TO COORDINATE AND SCHEDULE WORK WITH RESTROOM MANUFACTURER/INSTALLER.
2. AS PART OF BASE BID, CONTRACTOR SHALL ENGAGE THE SERVICES OF A CA LICENSED ENGINEER WITH EXPERIENCE IN DESIGNING METHANE ZONE MITIGATION SYSTEMS TO DEVELOP A METHANE MITIGATION DESIGN FOR THE PRE-FABRICATED RESTROOM/OFFICE BUILDING INCLUDING COMPLETE PLANS AND DETAILS AND ENGINEERING AND OBSERVATION SERVICES AS REQUIRED FOR CONSTRUCTION TO SATISFY THE METHANE MITIGATION REQUIREMENTS NOTED IN SUPPLEMENTAL GEOTECHNICAL REPORT DATED MARCH 12, 2020. PREFABRICATED RESTROOM/OFFICE ARCHITECTURAL PLANS SHALL BE PROVIDED BY OTHERS. THE METHANE MITIGATION SYSTEM SHALL BE INSTALLED BY OTHERS.
3. CONTRACTOR SHALL PROVIDE FINISH FLOOR ELEVATION TO RESTROOM INSTALLER BASED ON GRADING PLAN INCLUDING A BENCHMARK AND OFFSETS FOR BUILDING CORNERS. CONTRACTOR TO PROVIDE RESTROOM PAD PER DETAIL A5/L409.
4. CONTRACTOR SHALL PROVIDE SEWER AND WATER AS NOTED PER PLAN STUBBED OUT TO WITHIN 6' OUTSIDE OF BUILDING LOCATION. SEE GRADING, IRRIGATION, AND ELECTRICAL PLANS.
5. CONTRACTOR TO PROVIDE AND CONNECT ELECTRICAL SERVICE TO RESTROOM ELECTRICAL SERVICE PANEL (PROVIDED BY RESTROOM INSTALLER). WITHIN 6' OF RESTROOM, 2" ELECTRICAL CONDUIT WILL BE PROVIDED BY RESTROOM INSTALLER. SEE ELECTRICAL PLANS.

PLAYGROUND NOTES:

1. PLAYGROUND EQUIPMENT, AND RESILIENT SURFACING AND CONCRETE SUB-BASE TO BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS IN ACCORDANCE WITH THE GRADING PLAN.

BLEACHER/SLAB NOTES:

1. BLEACHERS AND SLABS BY OTHERS, NOT IN SCOPE. CONTRACTOR SHALL PROVIDE PREPARED SUBGRADE IN ACCORDANCE WITH GEOTECH REPORT. SEE S104 FOR REFERENCE. CONTRACTOR TO COORDINATE WITH INSTALLER AND PROVIDE FINISH SURFACE ELEVATIONS TO INSTALLER BASED ON GRADING PLAN INCLUDING A BENCHMARK/OFFSETS FOR SLAB CORNERS.

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER; AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

LADBS NOTES:

1. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
2. IF A GAS LINE IS INSTALLED, AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWNSTREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING. (INCLUDES COMMERCIAL ADDITION AND TI WORK OVER $10,000.) (SEPARATE PLUMBING PERMIT IS REQUIRED).
3. PROVIDE ULTRA-LOW FLUSH WATER CLOSETS FOR ALL NEW CONSTRUCTION.
4. A COPY OF THE EVALUATION REPORT AND/OR CONDITIONS OF LISTING SHALL ME MADE AVAILABLE AT THE JOB SITE.

CONSTRUCTION NOTES:

1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH PROJECT MANAGER TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. SEE GENERAL CONDITIONS AND GENERAL REQUIREMENTS.
2. CONSTRUCTION SIGN SHALL BE INSTALLED WITHIN TWO WEEKS OF THE START OF CONSTRUCTION. OBTAIN PROJECT MANAGER'S APPROVAL FOR SIGN LOCATION AND FINAL TEXT PRIOR TO FABRICATION AND INSTALLATION. SEE LANDSCAPE CONSTRUCTION NOTES AND CONSTRUCTION SIGN DETAIL.
3. LIMIT OF WORK IS AT PROPERTY LINE UNLESS OTHERWISE NOTED HEREIN.
4. ALL EXISTING R.O.W. CONCRETE SIDEWALK, STREET TREES, LIGHT FIXTURES/WIRING AND DRAINAGE FIXTURES, ETC. ARE TO BE PROTECTED IN PLACE PER LANDSCAPE CONSTRUCTION NOTES UNLESS OTHERWISE NOTED.
5. ALL EXISTING SITE FEATURES SHOWN TO REMAIN OR LOCATED OUTSIDE THE LIMIT OF WORK SHALL BE PROTECTED IN PLACE.
6. ADJACENT FENCING AND C.M.U. WALLS OUTSIDE OF PROPERTY LINE SHALL BE PROTECTED IN PLACE AND NOT DISTURBED WITHOUT PROPERTY OWNERS WRITTEN PERMISSION.
7. ANY NEW CONSTRUCTION LOCATED WITHIN THE PROTECTED ROOT AREA OF AN EXISTING TREE IS SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE LANDSCAPE CONSTRUCTION NOTES. SEE L100. PRIOR TO ANY CONSTRUCTION, CONTRACTOR SHALL HAVE ALL REQUIRED TREE PROTECTION ZONE FENCING IN PLACE.
8. ALL MATERIAL AND WORK SHOWN ON THIS PLAN SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
9. LAYOUT AND STAKING OF ALL PROJECT ELEMENTS SHALL BE DONE BY A LICENSED SURVEYOR PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE. DIGITAL PLAN FILES SHALL BE PROVIDED BY CITY TO FACILITATE LAYOUT. FINAL LAYOUT AND LOCATION OF ALL PROJECT ELEMENTS SHALL BE REVIEWED AND APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION. CONTRACTOR SHALL REQUEST REVIEW AND APPROVAL OF LAYOUT FOR ANY PROJECT ELEMENTS 48 HOURS MINIMUM IN ADVANCE. SEE LANDSCAPE CONSTRUCTION NOTES.
10. PAVING, MASONRY AND CONCRETE INSTALLERS ARE TO COORDINATE WITH THE ELECTRICAL, DRAINAGE AND IRRIGATION INSTALLER/SUBCONTRACTORS FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS PRIOR TO INSTALLATION OF HARDSCAPE ELEMENTS.
11. PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

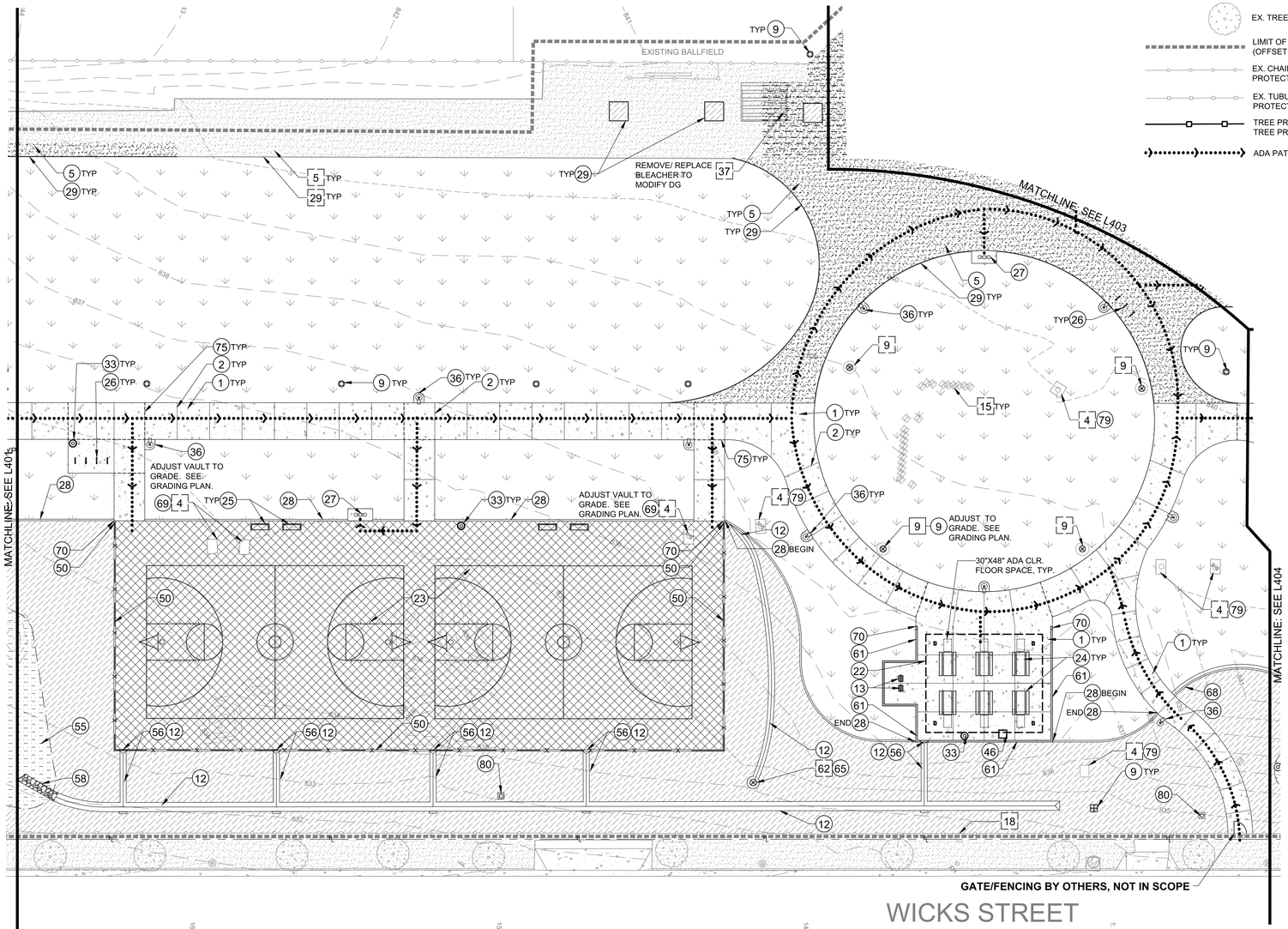
CONSTRUCTION LEGEND:

- CONSTRUCT CONCRETE PAVING. COLOR: NATURAL GRAY. MED. BROOM FINISH. SEE DETAIL J13/L406.
- EX. CONCRETE PAVING. PROTECT IN PLACE.
- DECOMPOSED GRANITE PAVING. SEE A1/L405.
- EX. DECOMPOSED GRANITE PAVING (DG). REMOVE 1.5"-2" OF EX. DG. INSTALL NEW DG TO MEET NEW GRADES NOTED ON GRADING PLAN.
- EX. DECOMPOSED GRANITE PAVING TO REMAIN. PROTECT INPLACE.
- CMB PAVING. INSTALL 12" OF CMB OVER SUBGRADE PREPARED IN ACCORDANCE WITH GEOTECHNICAL REPORT. SEE KEYNOTE 6.
- AC PAVING. SEE E9/L405.
- (2) BASKETBALL COURTS WITH ASPHALT PAVING, STRIPING AND (4) GOALS. INSTALL PER DETAILS E13/L405, J1/L407, AND J5/L407.
- BALLFIELD INFIELD MIX. INSTALL PER LANDSCAPE CONSTRUCTION NOTES.
- PLAYGROUND RESILIENT SURFACING. CONTRACTOR TO PROVIDE COMPACTED SUBGRADE 7.5" BELOW ADJACENT CONCRETE WALK ELEVATIONS; CONCRETE SUB-BASE AND RESILIENT SURFACING BY OTHERS. SEE NOTES AND A5/L405.
- DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
- LID BIOFILTRATION AREA. SEE GRADING PLAN.
- TURF. SEE L701-L704.
- PLANTING/MULCH AREA. SEE L701-L704.
- EX. PULLBOX/VALVE BOX. PROTECT IN PLACE . REFER TO ELECTRICAL AND IRRIGATION PLANS FOR NEW PULLBOX/VALVE BOX LOCATIONS.
- EX. TREE TO REMAIN. PROTECT IN PLACE.
- LIMIT OF WORK (OFFSET FOR CLARITY)
- EX. CHAINLINK FENCING TO REMAIN PROTECT IN PLACE.
- EX. TUBULAR STEEL FENCING TO REMAIN. PROTECT IN PLACE.
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- ADA PATH OF TRAVEL

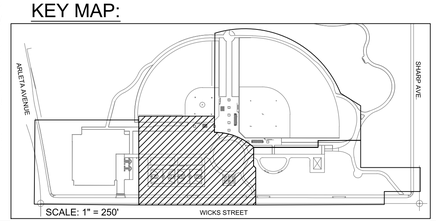
[#] EXISTING-PROTECT IN PLACE (#) CONSTRUCT (#)-[#] REMOVE AND RECONSTRUCT

KEYNOTES

1. CONCRETE PAVING. NATURAL GRAY; MED. BROOM FINISH. SEE DETAIL J13/L405.
2. CONTROL JOINT. SEE DETAIL J13/L405.
3. AC PAVING. SEE DETAIL E9/L405.
4. EX. LANDFILL EQUIPMENT, VAULT, STANDPIPE, PROBE.
5. DECOMPOSED GRANITE PAVING WITH WOOD HEADER. SEE DETAIL A1/L405.
6. CMB PAVING. INSTALL 12" OF CMB COMPACTED TO 95%, OVER SUBGRADE PREPARED IN ACCORDANCE WITH GEOTECHNICAL REPORT.
7. DRIVEWAY. (BY OTHERS, NOT IN SCOPE).
8. CONCRETE CURB. INSTALL PER DETAIL E5/L407.
9. CATCH BASIN. REFER TO GRADING PLANS.
10. EX. SIDE INLET CATCH BASIN, CITY STD DETAIL S-351-1.
11. EX. DRAIN LINE CLEANOUT.
12. V-GUTTER. INSTALL PER DETAIL E5/L405. REFER TO GRADING PLANS.
13. (2) BARBEQUE GRILLS. INSTALL PER DETAIL E5/L408.
14. EX. BACKFLOW PREVENTION DEVICE.
15. EX. IRRIGATION VALVE BOXES. REFER TO IRRIGATION PLANS FOR NEW PULLBOX/VALVE BOX LOCATIONS.
16. EX. TREE.
17. EX. SHRUB.
18. 8' HIGH PEDESTRIAN GATE. (WORK BY OTHERS, NOT IN SCOPE.)
19. PREFABRICATED RESTROOM/ADMIN BUILDING. CONTRACTOR SHALL PREPARE RESTROOM PAD PER DETAIL A5/L409. SEE ADDITIONAL PLAN NOTES. (BUILDING PROVIDED BY OTHERS, NOT IN SCOPE)
20. TRASH ENCLOSURE. INSTALL PER DETAIL E5/L413. (SEPARATE PERMIT, CITY TO PROVIDE RTI PLANS).
21. PLAY STRUCTURE. (WORK BY OTHERS). SEE NOTES AND L801.
22. SHADE STRUCTURE. SEE L802, (UNDER SEPARATE PERMIT, CITY TO PROVIDE RTI PLANS).
23. (2) BASKETBALL COURTS WITH ASPHALT PAVING, STRIPING AND (4) GOALS. INSTALL PER DETAILS E13/L405, J1/L407, AND J5/L407.
24. (6) CONCRETE PICNIC TABLES. MODEL #100FSS W/ROUND LEGS AND LOS ANGELES PARK PROUD LA LOGO BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106. SEE DETAIL A13/L407.
25. (8) CONCRETE BENCHES. MODEL #408 W/ BACK, ARMRESTS AND LOS ANGELES PARK PROUD LA LOGO BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106. SEE DETAIL A9/L407.
26. (7) BICYCLE RACKS. INSTALL PER DETAIL A5/L408.
27. (2) DRINKING FOUNTAINS WITH CONCRETE PAD. INSTALL PER DETAIL E5/L409.
28. CONCRETE HEADER. INSTALL PER DETAIL J13/L407.
29. HEADER. INSTALL PER DETAILS A1/L405 AND E13/L411.
30. PARKING SPACE STRIPING. INSTALL PER DETAIL J9/L408.
31. ADA PARKING SPACE. INSTALL PER DETAIL J13/L408.
32. CONCRETE WHEEL STOP. INSTALL PER DETAIL E13/L408, J13/L408, AND E9/L408.
33. (6) TRASH CANS. PROVIDE AND INSTALL (6) KEYSTONE RIDGE MODEL RE3D-55 "READING" ROUND LITTER RECEPTACLES; SIDE ACCESS DOOR WITH LOCK TABS, SURFACE MOUNT PER MANUFACTURER'S INSTRUCTIONS, FLAT LID-NO LINER. COLOR: QUICKSILVER PCSS/90416, OR APPROVED EQUAL. SEE DETAIL J13/L411.
34. NOT USED.
35. 8' CANTILEVERED VEHICULAR GATE. (BY OTHERS, NOT IN SCOPE).
36. LIGHT FIXTURE. INSTALL WITH HEADER IN TURF AREAS PER DETAIL A1/L409. REFER TO ELECTRICAL PLANS FOR LIGHT LOCATIONS/QUANTITY.
37. (2) BLEACHERS ON CONCRETE SLAB (BY OTHERS, NOT IN SCOPE). CONTRACTOR TO PROVIDE PREPARED SUBGRADE, SEE NOTES, THIS SHEET.
38. 30' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL ON L412.
39. 20' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL ON L412.
40. 10' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL J5/L410.
41. 4' HIGH DOUBLE-LEAF CHAIN LINK GATE W/ PROTECTIVE COVER. INSTALL PER E13/L410.
42. (3) BASE PADS, (1) HOME PLATE AND (1) PITCHERS RUBBER. SCHUTT HOLLYWOOD HOME PLATE SKU#1236440 HOLLYWOOD IMPACT BASES W/GROUND ANCHORS AND RUBBER PLUGS SKU#036930 AND SKU#1236507; MACGREGOR STEP DOWN PITCHER'S RUBBER SKU#BBPRPROX. AVAILABLE FROM BSN PORTS (800) 856-3488.
43. 6' HIGH CHAINLINK FENCE. SEE DETAIL A1/L408.
44. (2) BAT RACKS. MODEL BR-8 AVAILABLE FROM LA STEELCRAFT, 800 371-2438. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
45. INFIELD STORAGE BOX. INSTALL PER DETAIL J1/L410.
46. (1) CONCRETE HOT COAL CONTAINER MODEL 300 CR BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106.
47. (2) 21' PLAYERS BENCHES, MODEL 1119-21G FROM PW ATHLETIC. CONTACT (800) 687-5768. INSTALLED IN-GROUND PER MANUFACTURER'S INSTRUCTIONS.
48. (2) DUGOUTS. INSTALL PER DETAIL A1/L410.
49. PLAYGROUND RESILIENT SURFACING. CONTRACTOR TO PROVIDE COMPACTED SUBGRADE 7.5" BELOW ADJACENT CONCRETE WALK FS; CONCRETE SUB-BASE AND RESILIENT SURFACING BY OTHERS. SEE DETAIL A5/L405.
50. 8' CHAIN LINK FENCE WITH 6" CURB. SEE DETAILS E13/L405 AND J9/L410.
51. CONSTRUCTION SIGN. SEE DETAIL J1/L405.
52. CONCRETE HEADER AT ASPHALT PAVING. SEE DETAIL E13/L407.
53. 4' HIGH CHAINLINK FENCE W/PROTECTIVE COVER. SEE DETAIL J13/L410.
54. CONCRETE HEADER AT BALLFIELD FENCE. SEE DETAIL E13/L407.
55. LID BIOFILTRATION AREA. SEE GRADING PLAN.
56. CURB OPENING/SPASH BLOCK @ V-GUTTER. INSTALL PER DETAIL A1/L406.
57. TRENCH DRAIN. INSTALL PER DETAIL J13/L406.
58. SPLASH ROCK SWALE AT BIOFILTRATION AREA. SEE DETAIL E1/L406.
59. ELECTRIC VEHICLE CHARGING STATION, PARKING SPACE, AND SIGN. INSTALL PARKING SPACE AND SIGN PER DETAIL E9/L408. REFER TO ELECTRICAL PLANS.
60. BALLFIELD INFIELD MIX. REFER TO LANDSCAPE CONSTRUCTION NOTES.
61. CURB AT CONCRETE PAVING. INSTALL PER DETAIL A1/L407.
62. EX. MANHOLE "EZ" LA CITY STD PLAN S-381-0. W/DRAIN INLET/GRATE.
63. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
64. V-GUTTER @ CATCH BASIN. INSTALL PER DETAIL J1/L406.
65. V-GUTTER @ EX. MANHOLE. INSTALL PER DETAIL A9/L405.
66. ELECTRICAL TRANSFORMER AND SWTICHBOARD. REFER TO ELECTRICAL PLANS.
67. (2) 20' BASELINE FOUL/FAIR POLES (1 PAIR). MODEL FLP-20 FROM LA STEELCRAFT (626) 798-7401. USE IN LIEU OF FENCE POST AT FOUL LINE.
68. LANDSCAPE AREA CURB/GUTTER. INSTALL PER DETAIL J9/L407.
69. (5) 2'x4' TRAFFIC RATED, NON-SLIP, STAINLESS STEEL VAULT COVERS. FIELD VERIFY.
70. INSTALL CURB TRANSITION. SEE DETAIL E9/L407.
71. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
72. (3) ACCESSIBLE PARKING SIGNS. SEE DETAILS A13/L408 AND J13/L408.
73. EX. UTILITY POLE.
74. 6' HIGH DOUBLE-LEAF CHAINLINK GATE. SEE DETAIL A13/L411.
75. DOWELED EXPANSION JOINT. SEE DETAIL E1/L405.
76. HEADWALL. INSTALL PER GRADING PLAN AND DETAIL J1/L408.
77. TOW SIGN (2 TOTAL). INSTALL PER DETAIL A13/L408.
78. DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
79. PROVIDE AND INSTALL RUBBERCAL ECO-SPORT 1" INTERLOCKING RUBBER SURFACING TILES OR APPROVED EQUAL OVER (8) EX. 2' x 4' VAULTS. TRIM TO FIT TILE FOR VAULT HANDHOLDS/BOLTS , FIELD VERIFY. EPOXY TO VAULT LID PER MANUFACTURER'S INSTRUCTIONS. COLOR: GREEN. CONTACT (844) 782-2374. CONTRACTOR MAY REPAIR ON APPROVAL OF LANDSCAPE ARCHITECT.
80. (5) LANDFILL PROBE VAULTS. INSTALL PER DETAIL A13/L409.



KEY MAP:



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SCALE: 1" = 20'

BUREAU OF ENGINEERING OFFICIAL RECORD

ENGINEERING CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT ★ JANE ADRIAN ★ No. 3940 ★ 10-31-21 Renewal Date ★ 04-05-21 Date ★ STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		08/05/2021
APPROVED BY: STEVEN FIERCE, AIA PRINCIPAL ARCHITECT		

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION PLAN SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L402
SHEET 32 OF SHEETS 74

PLOTTED: 8/24/2021 3:19 PM

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FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L401 - L404_CONSTRUCTION.DWG
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/13/2021 3:18 PM
REVISION DATES (DESIGN STAGE ONLY)

CONSTRUCTION AND LADBS NOTES: REFER TO SHEETS L401, L402, L404

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION. LASAN CONTACTS NOTED ON SHEETS L401, L402, AND L404.

PREFAB RESTROOM , PLAYGROUND, AND BLEACHER/SLAB NOTES: REFER TO SHEETS L401, L402, L404

DIGALERT
Call Toll Free 1-800-227-2600
Two (2) Working Days BEFORE YOU DIG
Underground Service Alert of Southern California

CONSTRUCTION LEGEND:

- CONSTRUCT CONCRETE PAVING. COLOR: NATURAL GRAY. MED. BROOM FINISH. SEE DETAIL J13/L406.
- EX. CONCRETE PAVING. PROTECT IN PLACE.
- DECOMPOSED GRANITE PAVING. SEE A1/L405.
- EX. DECOMPOSED GRANITE PAVING (DG). REMOVE 1.5"-2" OF EX. DG. INSTALL NEW DG TO MEET NEW GRADES NOTED ON GRADING PLAN.
- EX. DECOMPOSED GRANITE PAVING TO REMAIN. PROTECT INPLACE.
- CMB PAVING. INSTALL 12" OF CMB OVER SUBGRADE PREPARED IN ACCORDANCE WITH GEOTECHNICAL REPORT. SEE KEYNOTE 6.
- AC PAVING. SEE E9/L405.
- (2) BASKETBALL COURTS WITH ASPHALT PAVING, STRIPING AND (4) GOALS. INSTALL PER DETAILS E13/L405, J1/L407, AND J5/L407.
- BALLFIELD INFIELD MIX. INSTALL PER LANDSCAPE CONSTRUCTION NOTES.
- PLAYGROUND RESILIENT SURFACING. CONTRACTOR TO PROVIDE COMPACTED SUBGRADE 7.5" BELOW ADJACENT CONCRETE WALK FS; CONCRETE SUB-BASE AND RESILIENT SURFACING BY OTHERS. SEE NOTES AND A5/L405.
- DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
- LID BIOFILTRATION AREA. SEE GRADING PLAN.
- TURF. SEE L701-L704.
- PLANTING/MULCH AREA. SEE L701-L704.
- EX. PULLBOX/VALVE BOX. PROTECT IN PLACE . REFER TO ELECTRICAL AND IRRIGATION PLANS FOR NEW PULLBOX/VALVE BOX LOCATIONS.
- EX. TREE TO REMAIN. PROTECT IN PLACE.
- LIMIT OF WORK (OFFSET FOR CLARITY)
- EX. CHAINLINK FENCING TO REMAIN PROTECT IN PLACE.
- EX. TUBULAR STEEL FENCING TO REMAIN. PROTECT IN PLACE.
- TREE PROTECTION ZONE FENCING. SEE L100 TREE PROTECTION NOTES AND DETAIL A13/L100.
- ADA PATH OF TRAVEL

[#] EXISTING-PROTECT IN PLACE (#) CONSTRUCT (#)-[#] REMOVE AND RECONSTRUCT

KEYNOTES

1. CONCRETE PAVING. NATURAL GRAY; MED. BROOM FINISH. SEE DETAIL J13/L405.
2. CONTROL JOINT. SEE DETAIL J13/L405.
3. AC PAVING. SEE DETAIL E9/L405.
4. EX. LANDFILL EQUIPMENT, VAULT, STANDPIPE, PROBE.
5. DECOMPOSED GRANITE PAVING WITH WOOD HEADER. SEE DETAIL A1/L405.
6. CMB PAVING. INSTALL 12" OF CMB COMPACTED TO 95%, OVER SUBGRADE PREPARED IN ACCORDANCE WITH GEOTECHNICAL REPORT.
7. DRIVEWAY. (BY OTHERS, NOT IN SCOPE)
8. CONCRETE CURB. INSTALL PER DETAIL E5/L407.
9. CATCH BASIN. REFER TO GRADING PLANS.
10. EX. SIDE INLET CATCH BASIN, CITY STD DETAIL S-351-1.
11. DRAIN LINE CLEANOUT.
12. V-GUTTER. INSTALL PER DETAIL E5/L405. REFER TO GRADING PLANS.
13. (2) BARBEQUE GRILLS. INSTALL PER DETAIL E5/L408.
14. EX. BACKFLOW PREVENTION DEVICE.
15. EX. IRRIGATION VALVE BOXES. REFER TO IRRIGATION PLANS FOR NEW PULLBOX/VALVE BOX LOCATIONS.
16. EX. TREE.
17. EX. SHRUB.
18. 8' HIGH PEDESTRIAN GATE. (WORK BY OTHERS, NOT IN SCOPE.)
19. PREFABRICATED RESTROOM/ADMIN BUILDING. CONTRACTOR SHALL PREPARE RESTROOM PAD PER DETAIL A5/L409. SEE ADDITIONAL PLAN NOTES. (BUILDING PROVIDED BY OTHERS, NOT IN SCOPE).
20. TRASH ENCLOSURE. INSTALL PER DETAIL E5/L413. (UNDER SEPARATE PERMIT, CITY TO PROVIDE RTI PLANS).
21. PLAY STRUCTURE. (WORK BY OTHERS, NOT IN SCOPE.) SEE L801.
22. SHADE STRUCTURE. SEE L802. (UNDER SEPARATE PERMIT, CITY TO PROVIDE RTI PLANS).
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31. ADA PARKING SPACE. INSTALL PER DETAIL J13/L408.
32. CONCRETE WHEEL STOP. INSTALL PER DETAIL E13/L408, J13/L408, AND E9/L408.
33. (6) TRASH CANS. PROVIDE AND INSTALL (6) KEYSTONE RIDGE MODEL RE3D-55 "READING" ROUND LITTER RECEPTACLES: SIDE ACCESS DOOR WITH LOCK TABS, SURFACE MOUNT PER MANUFACTURER'S INSTRUCTIONS, FLAT LID-NO LINER. COLOR: QUICKSILVER PCSS/90416, OR APPROVED EQUAL. INSTALL PER DETAIL J13/L411.
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35. 8' CANTILEVERED VEHICULAR GATE. (BY OTHERS, NOT IN SCOPE.)
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38. 30' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL ON L412.
39. 20' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL ON L412.
40. 10' HIGH CHAIN LINK FENCE. INSTALL PER DETAIL J5/L410.
41. 4' HIGH DOUBLE-LEAF CHAIN LINK GATE W/ PROTECTIVE COVER. INSTALL PER DETAIL E13/L410.
42. (3) BASE PADS, (1) HOME PLATE AND (1) PITCHERS RUBBER. SCHUTT HOLLYWOOD HOME PLATE SKU#1236484; HOLLYWOOD IMPACT BASES W/GROUND ANCHORS AND RUBBER PLUGS SKU#036930 AND SKU#1236507; MACGREGOR STEP DOWN PITCHER'S RUBBER SKU#BBPRPROX. AVAILABLE FROM BSN PORTS (800) 856-3488.
43. 6' HIGH CHAINLINK FENCE. SEE DETAIL A1/L408.
44. (2) BAT RACKS. MODEL BR-8 AVAILABLE FROM LA STEELCRAFT, 800 371-2438. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
45. INFIELD STORAGE BOX. INSTALL PER DETAIL J1/L410.
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47. (2) 21' PLAYERS BENCHES, MODEL 1119-21G FROM PW ATHLETIC. CONTACT (800) 687-5768. INSTALLED IN-GROUND PER MANUFACTURER'S INSTRUCTIONS.
48. (2) DUGOUTS. INSTALL PER DETAIL A1/L410.
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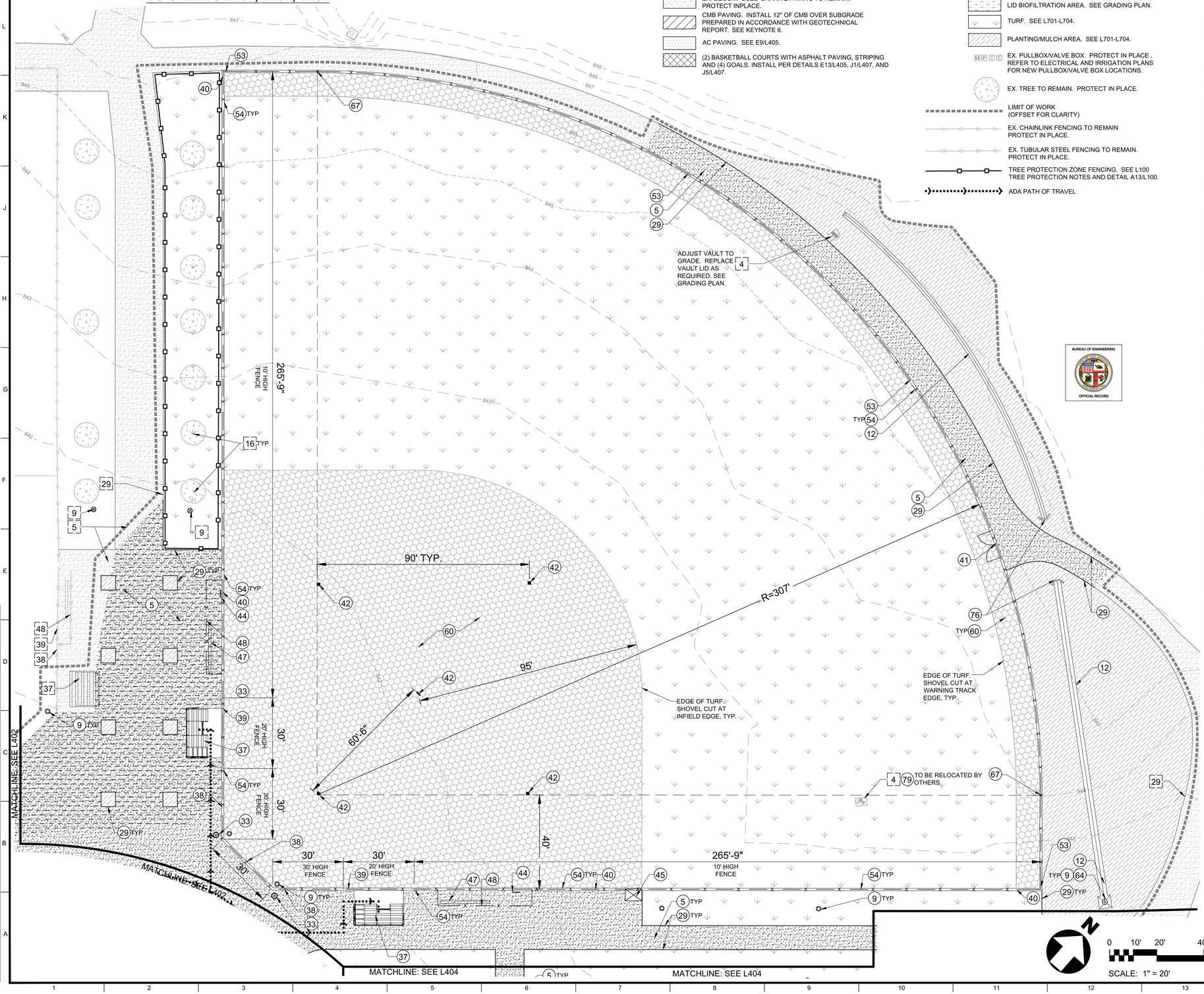
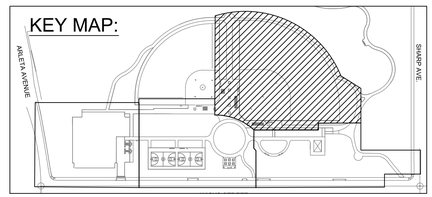
50. 8' CHAIN LINK FENCE WITH 6" CURB. SEE DETAILS E13/L405 AND J9/L410.
51. CONSTRUCTION SIGN. SEE DETAIL J1/L405.
52. CONCRETE HEADER AT ASPHALT PAVING. SEE DETAIL E13/L407.
53. 4' HIGH CHAINLINK FENCE W/PROTECTIVE COVER. SEE DETAIL J13/L410.
54. CONCRETE HEADER AT BALLFIELD FENCE. SEE DETAIL E13/L407.
55. LID BIOFILTRATION AREA. SEE GRADING PLAN.
56. CURB OPENING/SPLASH BLOCK @ V-GUTTER. INSTALL PER DETAIL A1/L406.
57. TRENCH DRAIN. INSTALL PER DETAIL J13/L406.
58. SPLASH ROCK SWALE AT BIOFILTRATION AREA. SEE DETAIL E1/L406.
59. ELECTRIC VEHICLE CHARGING STATION, PARKING SPACE, AND SIGN. INSTALL PARKING SPACE AND SIGN PER DETAIL E9/L408. REFER TO ELECTRICAL PLANS FOR ELECTRICAL CHARGER.
60. BALLFIELD INFIELD MIX. REFER TO LANDSCAPE CONSTRUCTION NOTES.
61. CURB AT CONCRETE PAVING. INSTALL PER DETAIL A1/L407.
62. EX. MANHOLE "EZ" LA CITY STD PLAN S-381-0 W/DRAIN INLET/GRATE.
63. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
64. V-GUTTER @ CATCH BASIN. INSTALL PER DETAIL J1/L406.
65. V-GUTTER @ EX. MANHOLE. INSTALL PER DETAILA9/L405.
66. ELECTRICAL TRANSFORMER AND SWITCHBOARD. REFER TO ELECTRICAL PLANS.
67. (2) 20' BASELINE FOUL/FAIR POLES (1 PAIR). MODEL FLP-20 FROM LA STEELCRAFT (626) 798-7401. USE IN LIEU OF FENCE POST AT FOUL LINE.
68. LANDSCAPE AREA CURB/GUTTER. INSTALL PER DETAIL J9/L407.
69. (5) 2'x4' TRAFFIC RATED, NON-SLIP, STAINLESS STEEL VAULT COVER. FIELD VERIFY.
70. INSTALL CURB TRANSITION. SEE DETAIL E9/L407.
71. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
72. (3) ACCESSIBLE PARKING SIGNS. SEE DETAILS A13/L408 AND J13/L408.
73. EX. UTILITY POLE.
74. 6' HIGH DOUBLE-LEAF CHAINLINK GATE. SEE DETAIL A13/L411.
75. DOWELED EXPANSION JOINT. SEE DETAIL E1/L405.
76. HEADWALL. INSTALL PER GRADING PLAN AND DETAIL J1/L408.
77. TOW SIGNS (2 TOTAL). INSTALL PER DETAIL A13/L408.
78. DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
79. RUBBER SURFACING TILE. PROVIDE AND INSTALL RUBBERCAL ECO-SPORT 1" INTERLOCKING RUBBER SURFACING TILES OR APPROVED EQUAL OVER (8) EX. 2' x 4' VAULTS. TRIM TO FIT TILE FOR VAULT HANDHOLDS/BOLTS TO MAINTAIN VAULT COVER OPERATION, FIELD VERIFY. EPOXY TO VAULT LID PER MANUFACTURER'S INSTRUCTIONS. COLOR: GREEN. CONTACT (844) 782-2374. CONTRACTOR MAY REPAIR EX. TILE ON CITY APPROVAL.
80. (5) LANDFILL PROBE VAULTS. INSTALL PER DETAIL A13/L409.



KEY MAP:



SCALE: 1" = 250'

BUREAU OF ENGINEERING
OFFICIAL RECORD

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

BUREAU OF ENGINEERING
CITY OF LOS ANGELES

LANDSCAPE ARCHITECT
JANE M. ADRIAN
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

	ARCHITECTURAL DIVISION	LIC. NO. 3940	DATE:
LANDSCAPE ARCHITECT:	JANE ADRIAN		04/21/2021
DESIGNED BY:	GREG MOESER		04/21/2021
DRAWN BY:	GREG MOESER		04/21/2021
CHECKED BY:	RICHARD FISHER		08/05/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION PLAN SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L403
SHEET 33 OF SHEETS 74

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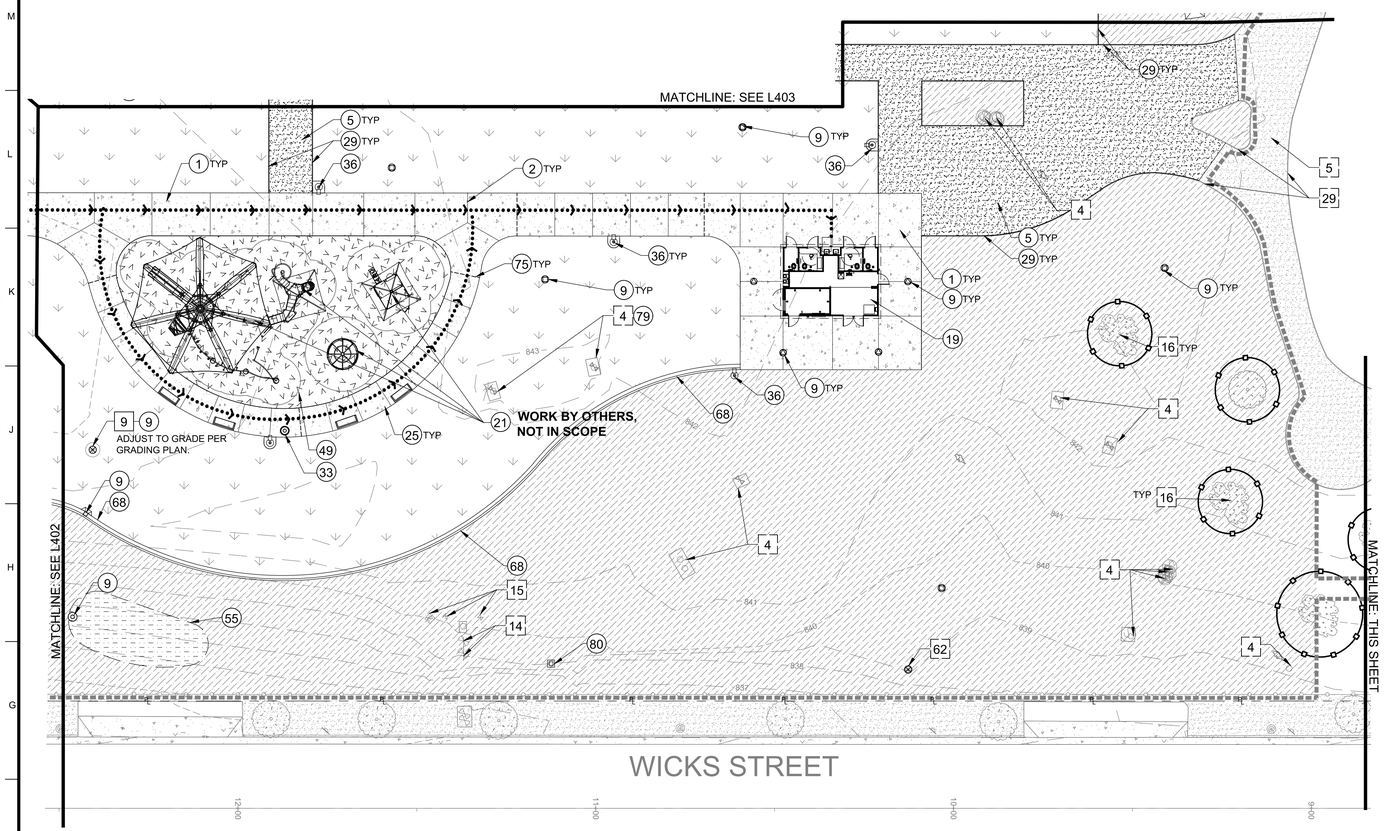

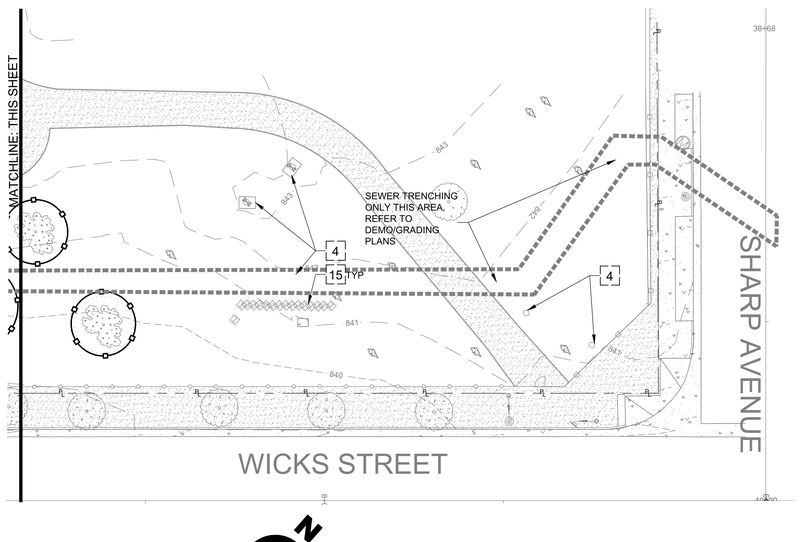

0 10' 20' 40'

SCALE: 1" = 20'

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62. EX. MANHOLE "EZ" LA CITY STD PLAN S-381-0. W/DRAIN INLET/GRATE.
63. EX. HDPE PIPE FLARED END SECTION TO REMAIN. PROTECT IN PLACE.
64. V-GUTTER @ CATCH BASIN. INSTALL PER DETAIL J1/L406.
65. V-GUTTER @ EX. MANHOLE. INSTALL PER DETAIL A9/L405.
66. ELECTRICAL TRANSFORMER AND SWTICHBOARD. REFER TO ELECTRICAL PLANS.
67. (2) 20' BASELINE FOUL/FAIR POLES (1 PAIR). MODEL FLP-20 FROM LA STEELCRAFT (626) 798-7401. USE IN LIEU OF FENCE POST AT FOUL LINE.
68. LANDSCAPE AREA CURB/GUTTER. INSTALL PER DETAIL J9/L407.
69. (5) 2'x4' TRAFFIC RATED, NON-SLIP, STAINLESS STEEL VAULT COVERS. FIELD VERIFY.
70. INSTALL CURB TRANSITION. SEE DETAIL E9/L407.
71. CURB RAMP. INSTALL PER CITY STANDARD DETAIL S-442-6, CASE E, INSTALL ONE SIDE OF RAMP ONLY, W=11.5'.
72. (3) ACCESSIBLE PARKING SIGNS. SEE DETAILS A13/L408 AND J13/L408.
73. EX. UTILITY POLE.
74. 6' HIGH DOUBLE-LEAF CHAINLINK GATE. SEE DETAIL A13/L411.
75. DOWELED EXPANSION JOINT. SEE DETAIL E1/L405.
76. HEADWALL. INSTALL PER GRADING PLAN AND DETAIL J1/L408.
77. TOW SIGN (2 TOTAL). INSTALL PER DETAIL A13/L408.
78. DETECTABLE WARNING SURFACE. INSTALL PER DETAILS E9/L408 AND J13/L408 AND CITY STANDARD DETAILS S-442-6 AND S-601.
79. PROVIDE AND INSTALL RUBBERCAL ECO-SPORT 1" INTERLOCKING RUBBER SURFACING TILES OR APPROVED EQUAL OVER (8) EX. 2' x 4' VAULTS. TRIM TO FIT TILE FOR VAULT HANDHOLDS/BOLTS , FIELD VERIFY. EPOXY TO VAULT LID PER MANUFACTURER'S INSTRUCTIONS. COLOR: GREEN. CONTACT (844) 782-2374. CONTRACTOR MAY REPAIR ON APPROVAL OF LANDSCAPE ARCHITECT.
80. (5) LANDFILL PROBE VAULTS. INSTALL PER DETAIL A13/L409.

PREFAB RESTROOM NOTES:

1. PREFABRICATED RESTROOM/OFFICE TO BE PROVIDED/INSTALLED BY OTHERS. CONTRACTOR TO COORDINATE AND SCHEDULE WORK WITH RESTROOM MANUFACTURER/INSTALLER.
2. AS PART OF BASE BID, CONTRACTOR SHALL ENGAGE THE SERVICES OF A CA LICENSED ENGINEER WITH EXPERIENCE IN DESIGNING METHANE ZONE MITIGATION SYSTEMS TO DEVELOP A METHANE MITIGATION DESIGN FOR THE PRE-FABRICATED RESTROOM/OFFICE BUILDING INCLUDING COMPLETE PLANS AND DETAILS AND ENGINEERING AND OBSERVATION SERVICES AS REQUIRED FOR CONSTRUCTION TO SATISFY THE METHANE MITIGATION REQUIREMENTS NOTED IN SUPPLEMENTAL GEOTECHNICAL REPORT DATED MARCH 12, 2020. PREFABRICATED RESTROOM/OFFICE ARCHITECTURAL PLANS SHALL BE PROVIDED BY OTHERS. THE METHANE MITIGATION SYSTEM SHALL BE INSTALLED BY OTHERS.
3. CONTRACTOR SHALL PROVIDE FINISH FLOOR ELEVATION TO RESTROOM INSTALLER BASED ON GRADING PLAN INCLUDING A BENCHMARK AND OFFSETS FOR BUILDING CORNERS. CONTRACTOR TO PROVIDE RESTROOM PAD PER DETAIL A5/L409.
4. CONTRACTOR SHALL PROVIDE SEWER AND WATER AS NOTED PER PLAN STUBBED OUT TO WITHIN 6' OUTSIDE OF BUILDING LOCATION. SEE GRADING, IRRIGATION, AND ELECTRICAL PLANS.
5. CONTRACTOR TO PROVIDE AND CONNECT ELECTRICAL SERVICE TO RESTROOM ELECTRICAL SERVICE PANEL (PROVIDED BY RESTROOM INSTALLER). WITHIN 6' OF RESTROOM, 2" ELECTRICAL CONDUIT WILL BE PROVIDED BY RESTROOM INSTALLER. SEE ELECTRICAL PLANS.

LADBS NOTES:

1. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
2. IF A GAS LINE IS INSTALLED, AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWNSTREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING. (INCLUDES COMMERCIAL ADDITION AND TI WORK OVER $10,000.) (SEPARATE PLUMBING PERMIT IS REQUIRED).
3. PROVIDE ULTRA-LOW FLUSH WATER CLOSETS FOR ALL NEW CONSTRUCTION.
4. A COPY OF THE EVALUATION REPORT AND/OR CONDITIONS OF LISTING SHALL ME MADE AVAILABLE AT THE JOB SITE.

PLAYGROUND NOTES:

1. PLAYGROUND EQUIPMENT, AND RESILIENT SURFACING AND CONCRETE SUB-BASE TO BE PROVIDED BY OTHERS. AT RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE (PREPARED IN ACCORDANCE WITH THE GEOTECH REPORT) 7.5" BELOW ADJACENT CONCRETE WALK FS. SEE DETAIL A5/L405 FOR REFERENCE. CONTRACTOR TO PROVIDE DRAINAGE IMPROVEMENTS IN ACCORDANCE WITH THE GRADING PLAN.

BLEACHERS/SLAB NOTES:

1. BLEACHERS AND SLABS BY OTHERS, NOT IN SCOPE. CONTRACTOR SHALL PROVIDE PREPARED SUBGRADE IN ACCORDANCE WITH GEOTECH REPORT. SEE S104 FOR REFERENCE. CONTRACTOR TO COORDINATE WITH INSTALLER AND PROVIDE FINISH SURFACE ELEVATIONS TO INSTALLER BASED ON GRADING PLAN INCLUDING A BENCHMARK/OFFSETS FOR SLAB CORNERS.

CONSTRUCTION NOTES:

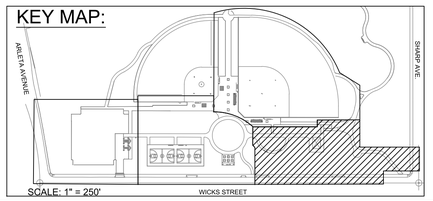
1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH PROJECT MANAGER TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. SEE GENERAL CONDITIONS AND GENERAL REQUIREMENTS.
2. CONSTRUCTION SIGN SHALL BE INSTALLED WITHIN TWO WEEKS OF THE START OF CONSTRUCTION. OBTAIN PROJECT MANAGER'S APPROVAL FOR SIGN LOCATION AND FINAL TEXT PRIOR TO FABRICATION AND INSTALLATION. SEE LANDSCAPE CONSTRUCTION NOTES AND CONSTRUCTION SIGN DETAIL.
3. LIMIT OF WORK IS AT PROPERTY LINE UNLESS OTHERWISE NOTED HEREIN.
4. ALL EXISTING R.O.W. CONCRETE SIDEWALK, STREET TREES, LIGHT FIXTURES/WIRING AND DRAINAGE FIXTURES, ETC. ARE TO BE PROTECTED IN PLACE PER LANDSCAPE CONSTRUCTION NOTES UNLESS OTHERWISE NOTED.
5. ALL EXISTING SITE FEATURES SHOWN TO REMAIN OR LOCATED OUTSIDE THE LIMIT OF WORK SHALL BE PROTECTED IN PLACE.
6. ADJACENT FENCING AND C.M.U. WALLS OUTSIDE OF PROPERTY LINE SHALL BE PROTECTED IN PLACE AND NOT DISTURBED WITHOUT PROPERTY OWNERS WRITTEN PERMISSION.
7. ANY NEW CONSTRUCTION LOCATED WITHIN THE PROTECTED ROOT AREA OF AN EXISTING TREE IS SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE LANDSCAPE CONSTRUCTION NOTES. SEE L100. PRIOR TO ANY CONSTRUCTION, CONTRACTOR SHALL HAVE ALL REQUIRED TREE PROTECTION ZONE FENCING IN PLACE.
8. ALL MATERIAL AND WORK SHOWN ON THIS PLAN SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
9. LAYOUT AND STAKING OF ALL PROJECT ELEMENTS SHALL BE DONE BY A LICENSED SURVEYOR PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE. DIGITAL PLAN FILES SHALL BE PROVIDED BY CITY TO FACILITATE LAYOUT. FINAL LAYOUT AND LOCATION OF ALL PROJECT ELEMENTS SHALL BE REVIEWED AND APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION. CONTRACTOR SHALL REQUEST REVIEW AND APPROVAL OF LAYOUT FOR ANY PROJECT ELEMENTS 48 HOURS MINIMUM IN ADVANCE. SEE LANDSCAPE CONSTRUCTION NOTES.
10. PAVING, MASONRY AND CONCRETE INSTALLERS ARE TO COORDINATE WITH THE ELECTRICAL, DRAINAGE AND IRRIGATION INSTALLER/SUBCONTRACTORS FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS PRIOR TO INSTALLATION OF HARDSCAPE ELEMENTS.
11. PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

LA SANITATION AND ENVIRONMENT (LASAN) EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER; AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

KEY MAP:



SCALE: 1" = 250'

BUREAU OF ENGINEERING
OFFICIAL RECORD

DIGALERT
Call Toll Free 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert of Southern California

NOTIFICATION PRIOR TO EXCAVATION (DESIGN STAGE ONLY)

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

BUREAU OF ENGINEERING
CITY OF LOS ANGELES
ENGINEERING

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT: JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — DATE: 04/21/2021
DRAWN BY: GREG MOESER — DATE: 04/21/2021
CHECKED BY: RICHARD FISHER — DATE: 08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — DATE:

LANDSCAPE ARCHITECTURAL DIVISION

JANE M. ADRIAN — LANDSCAPE ARCHITECT — No. 3940 — Renewal 10-31-21 — 04-05-21 Date — STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION PLAN SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

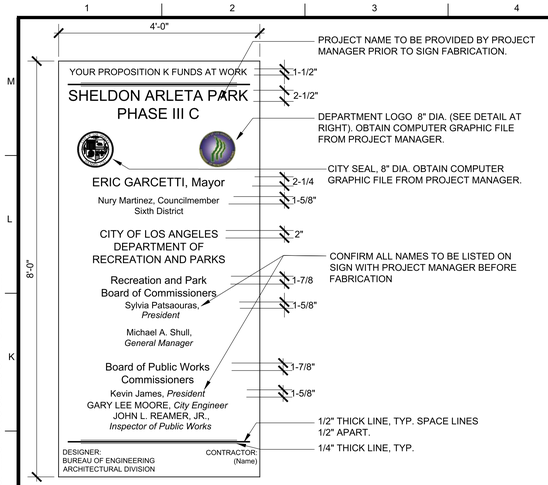
Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L404
SHEET 34 OF SHEETS 74

PLOTTED: 8/24/2021 3:20 PM

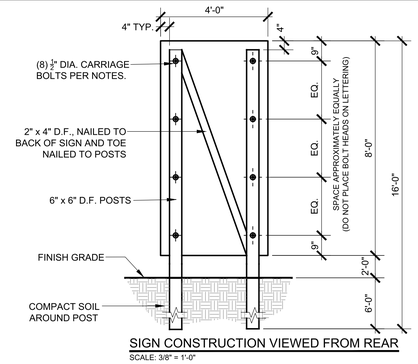
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/13/2021 3:18 PM
FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L401 - L404_CONSTRUCTION.DWG



SIGN TEXT LAYOUT

SCALE: 3/4" = 1'-0"



SIGN CONSTRUCTION VIEWED FROM REAR

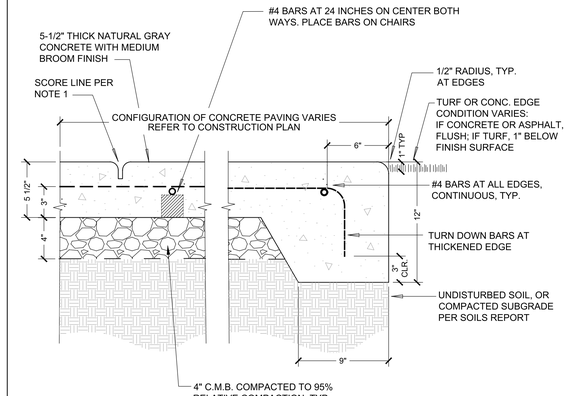
SCALE: 3/8" = 1'-0"

NOTES:
1. SIGN SHALL BE CONSTRUCTED OF 3/4" ACX PLYWOOD. LETTERING SHALL BE PLACED ON "A" SIDE. PAINT ALL EXPOSED WOOD SURFACES WITH ONE COAT PRIMER AND TWO COATS ENAMEL, PER DUNN-EDWARDS PRINTED SPECIFICATIONS, OR APPROVED EQUAL. COLORS: SIGN, TRIM, POSTS, AND DIAGONAL BRACING-SNOWCAP (WHITE) Q9-36P; ALL LETTERING (EXCLUDING CITY SEAL) AND TREE SILHOUETTE DESIGN SHALL BE BLACK.
2. SECURE SIGN TO 6" X 6" POSTS WITH 1/2" DIAMETER CARRIAGE BOLTS OF SUFFICIENT LENGTH TO SECURE SIGN TO POSTS. FOUR BOLTS PER POST. PROVIDE GALVANIZED WASHERS UNDER NUTS. DO NOT PLACE BOLTS THROUGH LETTERING.
3. ALTERNATE SIGN MOUNTING: UPON APPROVAL FROM PROJECT MANAGER, CONTRACTOR MAY OPT TO MOUNT SIGN ON A MOVEABLE BASE TO ACCOMMODATE CONSTRUCTION ACTIVITIES.
4. IF BOX TO LEFT IS CHECKED, ENTIRE FACE OF SIGN SHALL BE COVERED WITH 4' X 8' X 3/16" SHEET OF CLEAR PLEXIGLAS TO PROTECT FROM GRAFFITI. SECURE TO FACE OF SIGN WITH 1" X 2" EDGE TRIM. SECURE EDGE TRIM WITH NUMBER 12 X 1-1/4" STAINLESS STEEL FLAT HEAD WOOD SCREWS. SPACE AT 18" ON CENTER. AROUND PERIMETER OF SIGN.
5. SEE NOTICE TO CONTRACTORS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. SIGN SHALL BE INSTALLED WITHIN TWO WEEKS OF THE START OF CONSTRUCTION.

OBTAIN FULL SCALE COLOR GRAPHIC FILE OF DEPARTMENT LOGO FROM PROJECT MANAGER

DETAIL OF DEPARTMENT LOGO

NOT TO SCALE

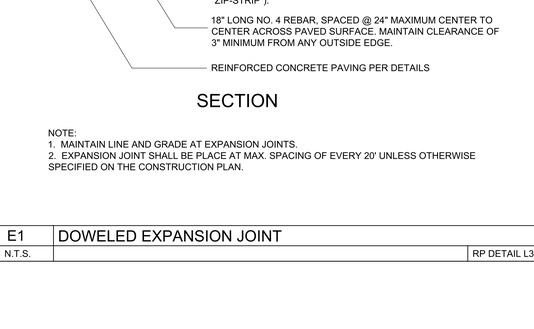


NOTES:
1. PROVIDE TOOLED SCORE LINES, 1" DEEP, 1/4" MAX WIDTH AT LOCATIONS SHOWN ON CONSTRUCTION PLAN.
2. EXPANSION JOINTS SHALL BE CONSTRUCTED PER DETAIL AT LOCATIONS SHOWN ON PLAN.
3. PROVIDE ISOLATION JOINT PER DETAIL AGAINST PREVIOUSLY CONSTRUCTED FIXED ELEMENTS.
4. END OF POUR JOINTS - SEE LANDSCAPE CONSTRUCTION NOTES.

RWF 1-23-18

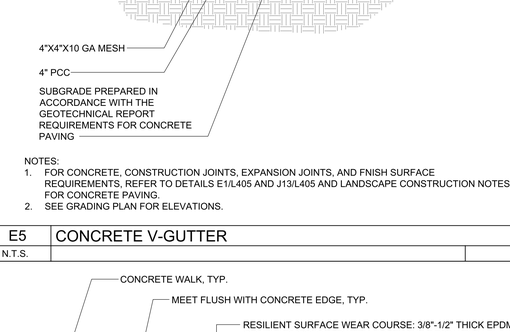
J1	PARK CONSTRUCTION SIGN	
AS NOTED		L6030

J13	CONCRETE PAVING W/ BASE, THICKENED EDGE	
NTS		RP DETAIL 3010

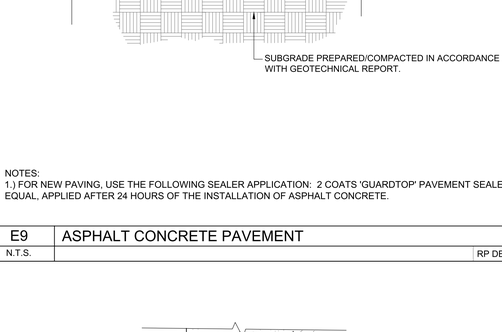


SECTION

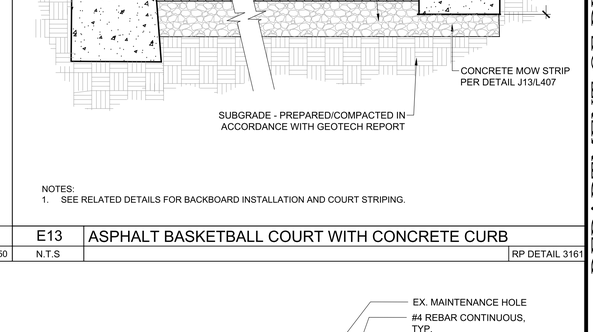
NOTE:
1. MAINTAIN LINE AND GRADE AT EXPANSION JOINTS.
2. EXPANSION JOINT SHALL BE PLACE AT MAX. SPACING OF EVERY 20' UNLESS OTHERWISE SPECIFIED ON THE CONSTRUCTION PLAN.



NOTES:
1. FOR CONCRETE, CONSTRUCTION JOINTS, EXPANSION JOINTS, AND FNISH SURFACE REQUIREMENTS, REFER TO DETAILS E1/L405 AND J13/L405 AND LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.
2. SEE GRADING PLAN FOR ELEVATIONS.



NOTES:
1.) FOR NEW PAVING, USE THE FOLLOWING SEALER APPLICATION: 2 COATS 'GUARDTOP' PAVEMENT SEALER OR EQUAL, APPLIED AFTER 24 HOURS OF THE INSTALLATION OF ASPHALT CONCRETE.



NOTES:
1. SEE RELATED DETAILS FOR BACKBOARD INSTALLATION AND COURT STRIPING.

E1	DOWELED EXPANSION JOINT	
N.T.S.		RP DETAIL L3070

E5	CONCRETE V-GUTTER	
N.T.S.		

E9	ASPHALT CONCRETE PAVEMENT	
N.T.S.		RP DETAIL L3150

E13	ASPHALT BASKETBALL COURT WITH CONCRETE CURB	
N.T.S		RP DETAIL 3161

TYPICAL PATH SECTION

NOTES:
1. ALL D.G. PATHS SHALL NOT EXCEED A RUNNING SLOPE GREATER THAN 4.9%. SEE GRADING PLANS.
2. DECOMPOSED GRANITE PAVING SHALL BE PRE-WETTED AND PRE-MIXED WITH STABILIZER (AMOUNT/RATIO PER MANUFACTURER'S INSTRUCTIONS) BY SUPPLIER PRIOR TO PLACEMENT TO ENSURE THOROUGH AND EVEN DISTRIBUTION THROUGHOUT MIXTURE. SEE LANDSCAPE CONSTRUCTION NOTES.

RP VERSION 05/06/04 SLG

UNDER RESILIENT SURFACING, CONTRACTOR TO PROVIDE COMPACTED SUBGRADE 7.5" BELOW ADJACENT CONCRETE WALK FS; CONCRETE SUB-BASE AND RESILIENT SURFACING BY OTHERS. REFER TO GEOTECHNICAL REPORT.

NOTES:
1. COORDINATE RESILIENT SURFACE THICKNESS WITH PLAY EQUIPMENT MANUFACTURER FOR FALL HEIGHT REQUIREMENTS, TYP.
2. POURED IN PLACE RESILIENT SURFACE BY "SPECTRA TURF" OR APPROVED EQUAL (800-875-5788). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. FOR BIDDING PURPOSES, ASSUME UP TO THREE DIFFERENT STANDARD COLOR BLENDS (EACH BLEND TO BE A MIX OF ONE COLOR PLUS 10% BLACK AND 10% WHITE, OR SIMILAR). LAYOUT TO BE PROVIDED.
4. RESILIENT SURFACING MUST PROVIDE A CRITICAL FALL HEIGHT EQUAL TO OR GREATER THAN, THE MAXIMUM FALL HEIGHT OF THE PLAYGROUND EQUIPMENT. CONTRACTOR TO CONFIRM FALL HEIGHTS WITH MANUFACTURER AND PRIOR TO POURING CONCRETE SUB-BASE.

DATE MODIFIED: 10-21-08 JK

PLAN VIEW

NOTES:
1. FOR CONCRETE, CONSTRUCTION JOINTS, EXPANSION JOINTS, AND FNISH SURFACE REQUIREMENTS, REFER TO DETAILS E1/L405 AND J13/L405 AND LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.

SECTION A-A

SECTION B-B

A1	DECOMPOSED GRANITE PATH WITH WOOD HEADER	
N.T.S.		RP DETAIL 381

A5	RESILIENT PLAY SURFACE	
N.T.S.		RP DETAIL 401

A9	V-GUTTER AT EX. MAINTENANCE HOLE	
N.T.S.		

BUREAU OF ENGINEERING
OFFICIAL RECORD

CITY OF LOS ANGELES ENGINEERING

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY:

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
EDWARD J. ADRIAN
No. 3940
Exp. 10-31-21
Registered Landscape Architect
04-05-21
Date
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
ARCHITECTURAL DIVISION	LIC. NO. 3940	04/21/2021
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		08/05/2021
CHECKED BY: RICHARD FISHER		
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

CITY OF LOS ANGELES
DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L405

SHEET 35 OF SHEETS 74

PLOTTED: 10/21/2021 2:14 PM

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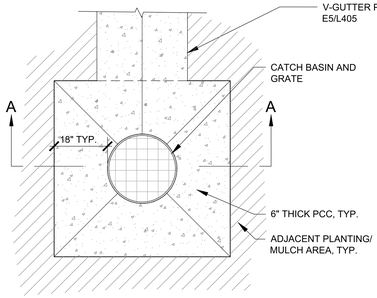
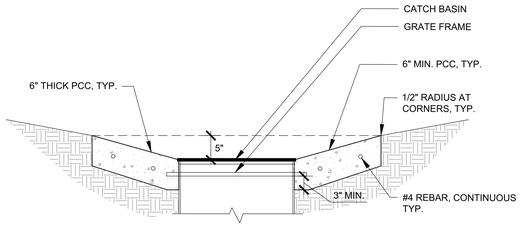
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGNWORKING_DRAWINGS\L405-L408_CONS_DETAILS.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 10/21/2021 10:44 AM

NOT FOR PLOTTER (DESIGN STAGE ONLY)



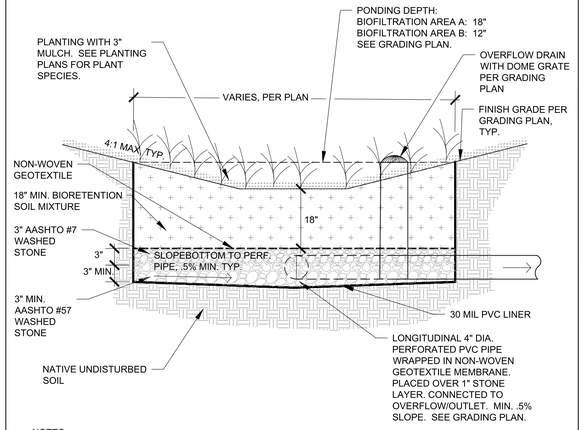
PLAN VIEW



SECTION A-A

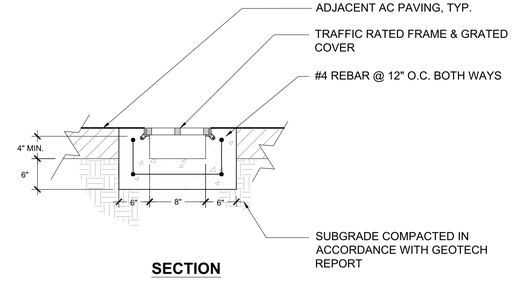
NOTES:
1. FOR CONCRETE, CONSTRUCTION JOINTS, EXPANSION JOINTS, AND FNISH SURFACE REQUIREMENTS, REFER TO DETAILS J13/L405 AND E1/L405 AND LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.
2. CATCH BASIN TO BE INSTALLED PER MANUFACTURE'S INSTRUCTIONS; SUBGRADE COMPACTION SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT/GEOTECHNICAL ENGINEER.

J1	V-GUTTER AT CATCH BASIN
N.T.S.	



NOTES:
1. BIOFILTRATION SOIL MIXTURE BY GAIL MATERIALS, (951) 667-6106. TO HAVE A 5" INFILTRATION RATE. REFER TO LANDSCAPE CONSTRUCTION NOTES. DO NOT COMPACT.
2. DEPTH OF PVC PIPE/STONE VARIES. SEE GRADING PLAN FOR SLOPE AND INVERT ELEVATIONS.
3. PLASTIC LINER AND BIORETENTION SOIL SHALL EXTEND VERTICALLY/HORIZONTALLY TO PONDING DEPTH. REFER TO GRADING PLAN FOR PONDING DEPTH/OUTLET ELEVATIONS.

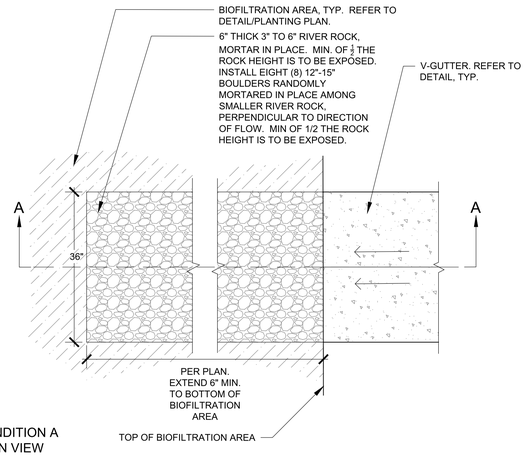
J9	BIOFILTRATION AREA
N.T.S.	



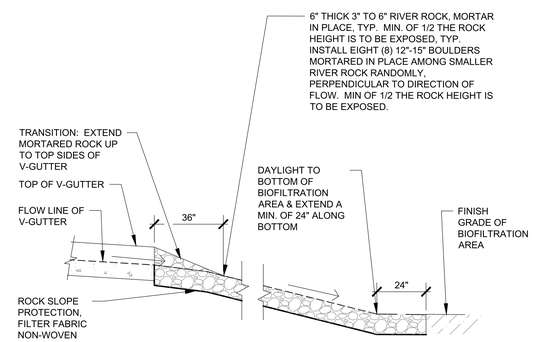
SECTION

1. SLOPE IN TRENCH DRAIN SHALL BE 1% MINIMUM.
2. FOR LOCATION OF DISCHARGE PIPE, REFER TO GRADING PLAN.
3. GRATE SHALL BE ADA COMPLIANT, HEEL PROOF, AND VANDAL RESISTANT.
4. PROVIDE LABEL "NO DUMPING - DRAINS TO OCEAN" AT TRENCH DRAIN SURFACE.

J13	TRENCH DRAIN
N.T.S.	

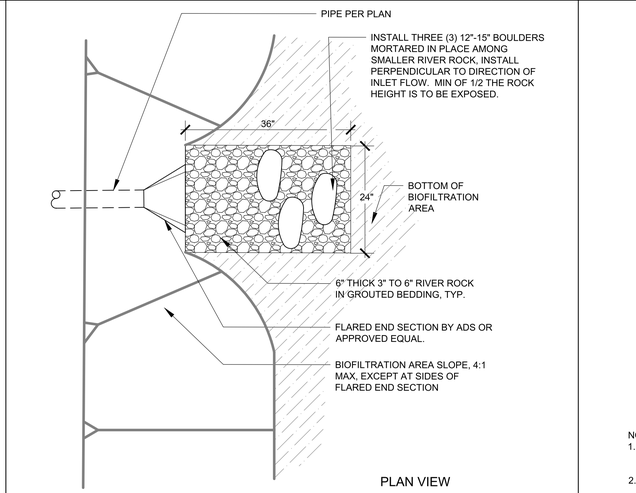


CONDITION A
PLAN VIEW



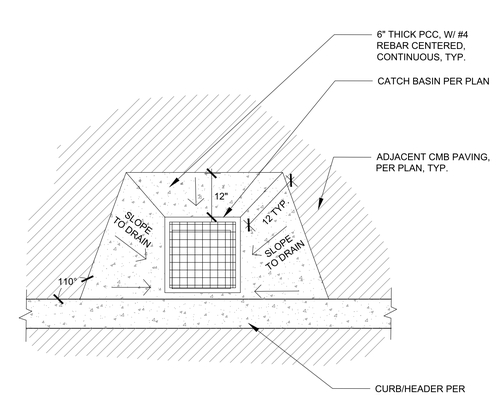
SECTION A-A

E1	SPLASH ROCK SWALE @ BIOFILTRATION AREA
N.T.S.	



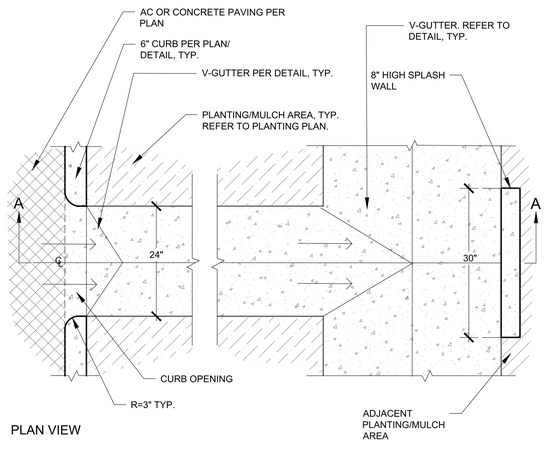
PLAN VIEW

E9	PIPE OUTLET INTO BIOFILTRATION AREA
N.T.S.	



NOTES:
1. FOR CONCRETE, CONSTRUCTION JOINTS, EXPANSION JOINTS, AND FNISH SURFACE REQUIREMENTS, REFER TO DETAILS E1/L405 AND J13/L405 AND LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.
2. PROVIDE 1/2" RADIUS ON ALL TOP CORNERS.

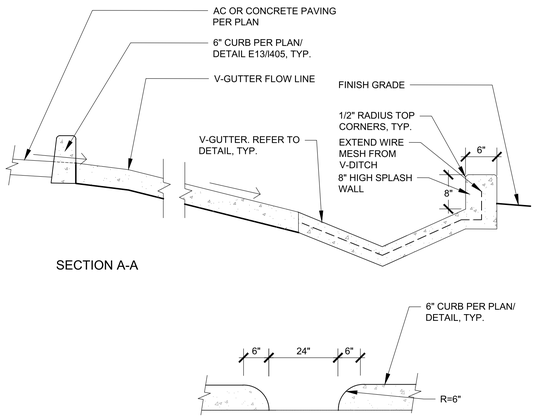
E13	CATCH BASIN AT PARKING AREA
N.T.S.	



PLAN VIEW

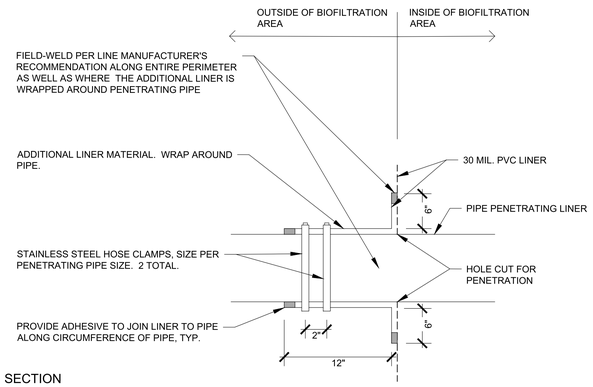
NOTES:
1. CURB OPENINGS PER PLAN. WHEN ADJACENT TO BASKETBALL COURT, FINAL LOCATION SHALL BE MADE IN FIELD TO AVOID FENCE POSTS (FENCE POSTS NOT SHOWN).

A1	CURB OPENING/SPLASH BLOCK @ V-GUTTER
N.T.S.	

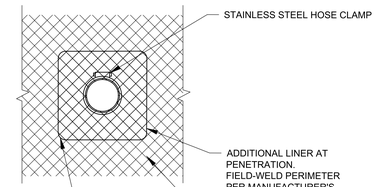


SECTION A-A

CURB ELEVATION @ OPENING



SECTION



ELEVATION

NOTES:
1. THIS DETAIL SHALL BE USED WHERE PIPING ENTERS/EXITS BIOFILTRATION AREAS.
2. LINER SHALL BE FIELD WELDED TO CATCH BASINS PENETRATING LINER PER MANUFACTURE'S RECOMMENDATIONS.

A9	PIPE PENETRATION AT BIOFILTRATION AREA
N.T.S.	

BUREAU OF ENGINEERING
OFFICIAL RECORD

BUREAU OF ENGINEERING
CITY OF LOS ANGELES ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
RICHARD M. FISHER
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
LIC. NO.: 3940	ARCHITECTURAL DIVISION	04/21/2021
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS SHEET 2
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

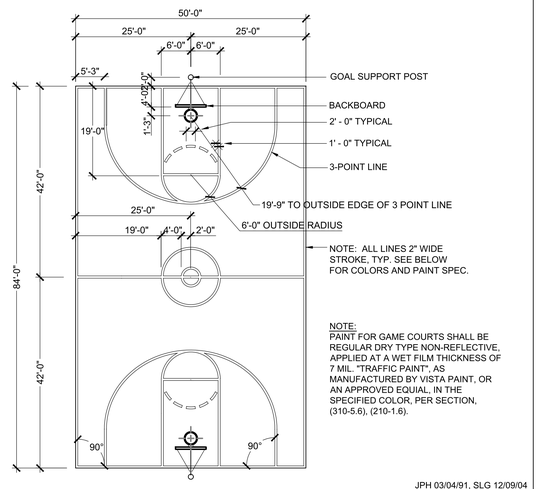
WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L406
SHEET 36 OF SHEETS 74

PLOTTED: 8/24/2021 3:24 PM

REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

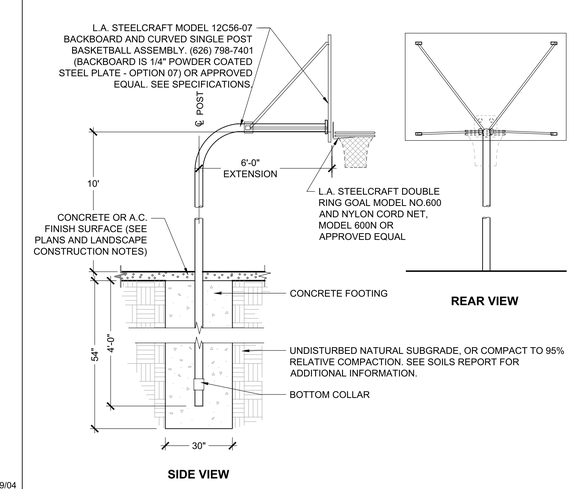
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/10/2021 4:21 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L405-L408_CONS_DETAILS.DWG



JPH 03/04/91, SLG 12/09/04

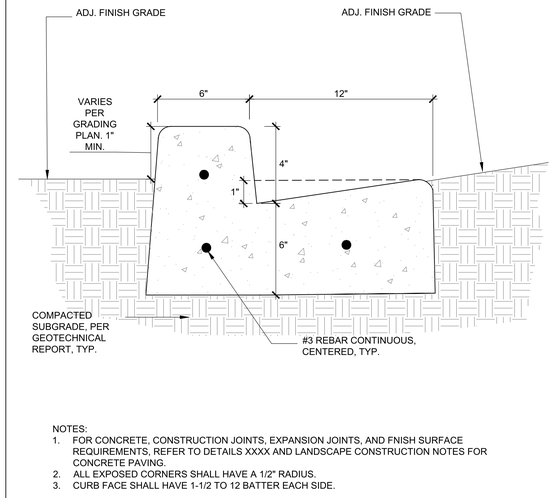
J1 BASKETBALL COURT

N.T.S. | RP DETAIL 100



J5 BASKETBALL GOAL AND CURVED POST INSTALLATION

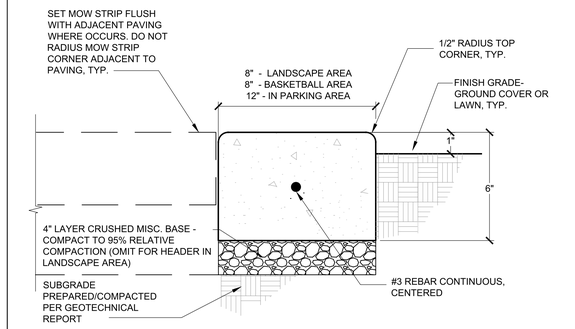
N.T.S. | RP DETAIL 3281



NOTES:
1. FOR CONCRETE, CONSTRUCTION JOINTS, EXPANSION JOINTS, AND FNISH SURFACE REQUIREMENTS, REFER TO DETAILS XXXX AND LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.
2. ALL EXPOSED CORNERS SHALL HAVE A 1/2" RADIUS.
3. CURB FACE SHALL HAVE 1-1/2 TO 12 BATTER EACH SIDE.

J9 LANDSCAPE AREA CURB/GUTTER

N.T.S.

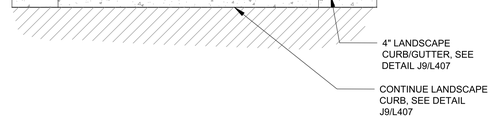


SECTION

NOTES:
1. SCORE MOW STRIP AT 10' O.C. MAX. AND AT ALL CHANGES IN DIRECTION SIMILAR TO CONCRETE PAVING DETAIL.
2. WHEN MOW STRIP IS INSTALLED ADJACENT TO EXISTING A.C. PAVING, THE EXISTING A.C. PAVING SHALL BE SAW-CUT 12" FROM THE EDGE OF THE MOW STRIP AND NEW ASPHALT CONCRETE PLACED AFTER MOW STRIP IS IN PLACE.

J13 CONCRETE MOW STRIP

N.T.S. | BOE VERSION Feb/08 - RF,SD | RP DETAIL L3200



NOTES:
1. FOR CONCRETE, CONSTRUCTION JOINTS, EXPANSION JOINTS, AND FNISH SURFACE REQUIREMENTS, REFER TO DETAILS E1/L405 AND J13/L405 AND LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.
2. PROVIDE 1/2" RADIUS ON ALL TOP CORNERS.

E1 CURB INLET AT LANDSCAPE AREA CURB/GUTTER

N.T.S.



SECTION

NOTES:
1. INCREASE DEPTH OF CURB AS NECESSARY TO KEEP CURB AT LEAST 6" BELOW FINISH GRADE NOTED PER GRADING PLAN.
2. PROVIDE TOOLED SCORE LINES EVENLY SPACED THROUGHOUT CURB NOT TO EXCEED 20' O.C.
3. PROVIDE TOOLED SCORE LINES AT THE BEGINNING AND END OF ALL CURVED SECTIONS.

E5 CONCRETE CURB

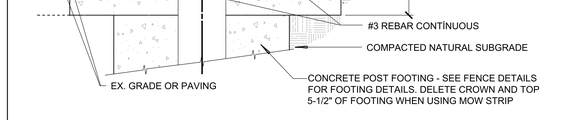
N.T.S



NOTES:
1. PROVIDE A 10" CURB TRANSITION AT EDGES OF 6" CURB OR 6" CURB/GUTTER WHENEVER THE END OF CURB MEETS AN EXISTING CONCRETE PAVEMENT OR A CONCRETE HEADER.

E9 CURB TRANSITION

N.T.S.

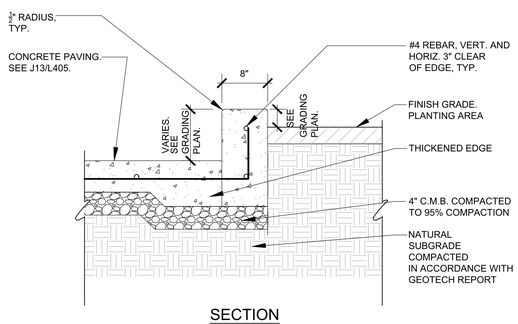


NOTES:
1. SCORE MOW STRIP AT 10' MAX 10' O.C. AND AT ALL CHANGES IN DIRECTION SIMILAR TO CONCRETE PAVING DETAIL AND DETAIL.

RP VERSION 12-09-04, SLG

E13 CONCRETE HEADER AT CHAINLINK FENCE

N.T.S. | RP DETAIL 321

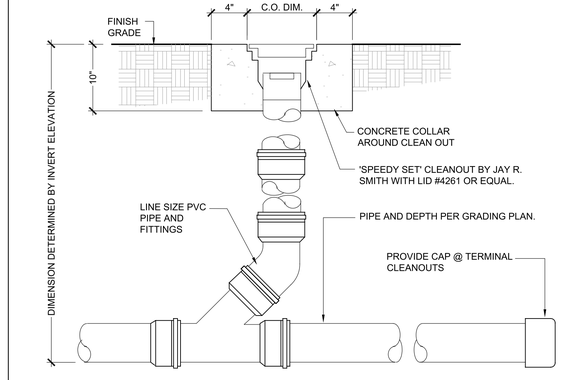


SECTION

NOTES:
1. PROVIDE TOOLED SCORE LINES EVENLY SPACED THROUGHOUT CURB NOT TO EXCEED 20' O.C. ALIGN WITH SCORE LINES IN PAVING.

A1 CONCRETE CURB @ CONCRETE PAVING

N.T.S



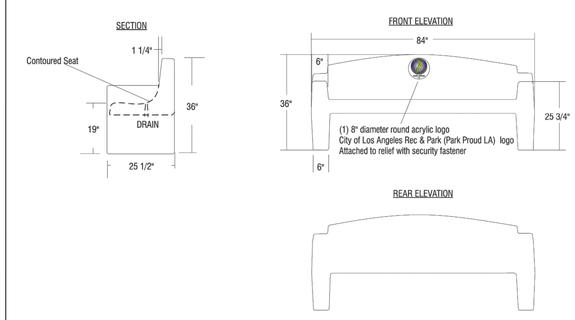
DRAINLINE CLEANOUT SECTION

NOTE: INSTALL PER PLAN; MAXIMUM DISTANCE BETWEEN CLEANOUTS SHALL BE 80'.

RP VERSION 12-12-92 RDF

A5 DRAIN LINE CLEAN OUT

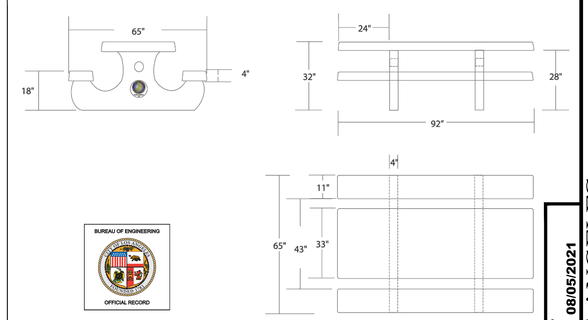
N.T.S. | RP DETAIL 3320



NOTES:
1. CONCRETE BENCHES. MODEL #408 W/ BACK, ARMRESTS AND LOS ANGELES PARK PROUD LA LOGO BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106.
2. EPOXY TO FINISH SURFACE PER MANUFACTURER'S INSTRUCTIONS.

A9 BENCH

N.T.S.



NOTES:
1. PICNIC TABLE: MODEL #100FSS W/ROUND LEGS AND LOS ANGELES PARK PROUD LA LOGO BY OUTDOOR CREATIONS INC. SMOOTH TEXTURE, DAVID TERRA COTTA COLOR, STANDARD ACRYLIC SEALER. CONTACT TIM HUDSON (530) 365-6106.

A13 PICNIC TABLE

N.T.S.

BUREAU OF ENGINEERING
OFFICIAL RECORD

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT: JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — 04/21/2021
DRAWN BY: GREG MOESER — 04/21/2021
CHECKED BY: RICHARD FISHER — 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — 08/05/2021

LANDSCAPE ARCHITECT — JANE ADRIAN — LICENSED — 10-31-21 — RENEWAL DATE — 04-05-21 — DATE — STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L407
SHEET 37 OF SHEETS 74

PLOTTED: 8/24/2021 3:24 PM

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FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGNWORKING_DRAWINGS\L405\L408_CONS_DETAILS.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/10/2021 4:21 PM

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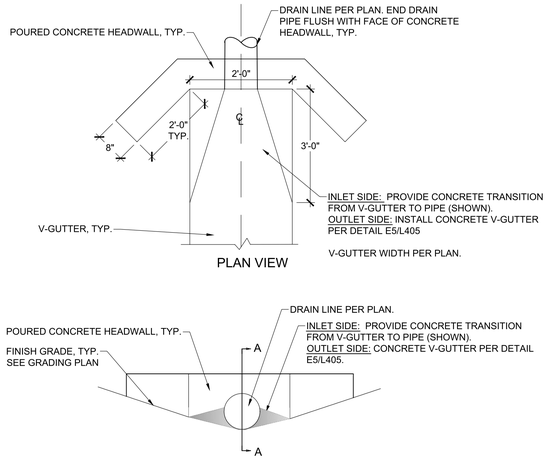
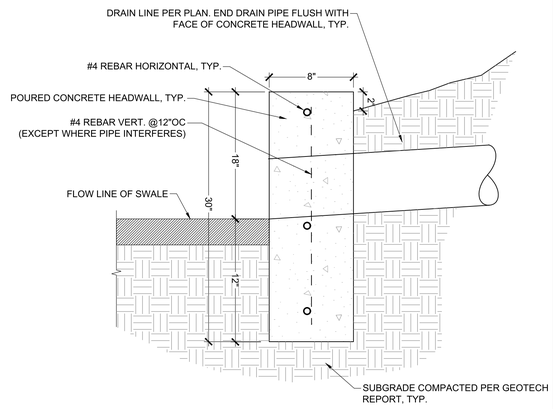
FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L405-L408_CONS_DETAILS.DWG
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/10/2021 4:21 PM

REVISION DATES (DESIGN STAGE ONLY)

J1 HEADWALL

N.T.S.

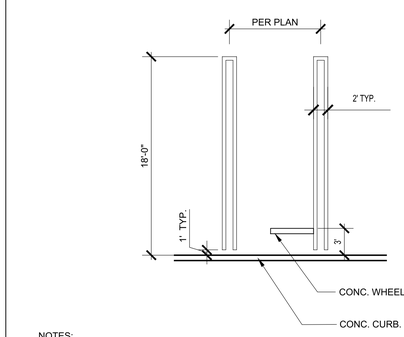




SECTION A-A

J9 PARKING STALL STRIPING

N.T.S. — DETAIL 3--

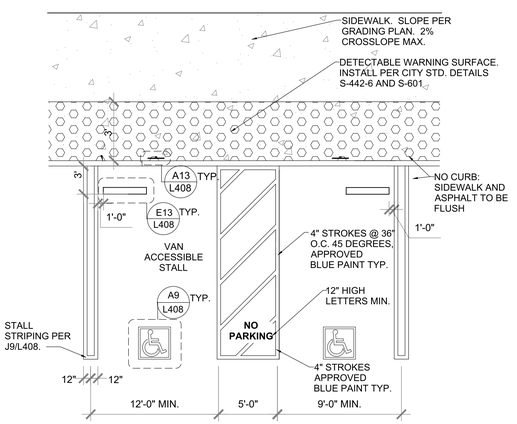


NOTES:

1. PARKING STALL LINES SHOWN ON STRIPING PLANS ARE DIAGRAMATIC. LINES SHALL BE PAINTED WHITE WITH 4" STROKES IN ACCORDACE WITH THIS DETAIL. ALL STRIPING SHALL BE PAINTED FAST DRY TRAFFIC PAINT PER MANUFACTURER'S INSTRUCTIONS.
2. SEE LANDSCAPE CONSTRUCTION PLAN FOR STALL WIDTH DIMENSIONS.
3. STRIPING PER LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY DOC. NO. P/ZC 2002-001.

J13 ADA PARKING SPACE LAYOUT

N.T.S. — RP DETAIL 500.1

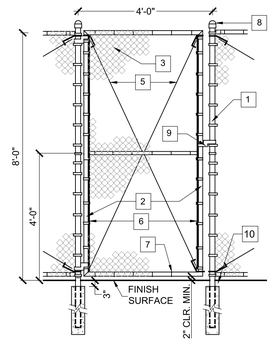


NOTES:

1. SHALL COMPLY WITH LADBS DOC. P/BC 2017-084.
2. THE CENTERLINE OF THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE A MAXIMUM OF 6" FROM THE CENTERLINE OF THE PARKING SPACE. ITS SIDES PARALLEL TO THE LENGTH OF THE PARKING SPACE AND ITS LOWER CORNER AT, OR LOWER CORNER ALIGNED WITH, THE END OF THE PARKING SPACE.
3. STRIPING SHALL BE PAINTED FAST DRY TRAFFIC PAINT PER MANUFACTURER'S INSTRUCTIONS

E1 8' HIGH x 4' WIDE CHAIN LINK SINGLE-LEAF GATE

N.T.S. — RP DETAIL 504.1



GATE MATERIALS

1. POSTS: 3-1/2" O.D. WITH 12" DIA. X 4'-6" DEEP FOOTINGS.
2. GATE FRAMES: TOP, BOTTOM AND SIDE MEMBERS: 2-3/8" O.D., MID RAIL 1-5/8" O.D. MITER GATE FRAME CORNERS, WELD AND GRIND SMOOTH.
3. FABRIC: 9-GAUGE, 1" SQAURE MESH, KNUCKLE TOP AND BOTTOM, VINYL-COATED (BLACK TO MATCH EXISTING - VERIFY) PLACE ON EXTERIOR SIDE OF GATES.
4. HINGES: INDUSTRIAL BULLDOG HINGE (180° SWING), 2 HINGES PER GATE, ONE AT TOP AND BOTTOM.
5. TRUSS ROD: 3/8" DIA. THREADED AT BOTH ENDS AND TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO GATE FRAME.
6. STRETCHER BAR: 3/16" X 3/4" WITH 1/8" X 1" TENSION BANDS AT 1'-0" O.C.
7. TIE WIRES:11-GAUGE AT 1'-6" O.C AT GATE FRAME TOP, BOTTOM AND MID RAILS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
9. LOCKABLE CAST ALUMINUM FORK LATCH.
10. PROVIDE A 1" CROWN AT TOP OF ALL POST FOOTINGS.

ELEVATION

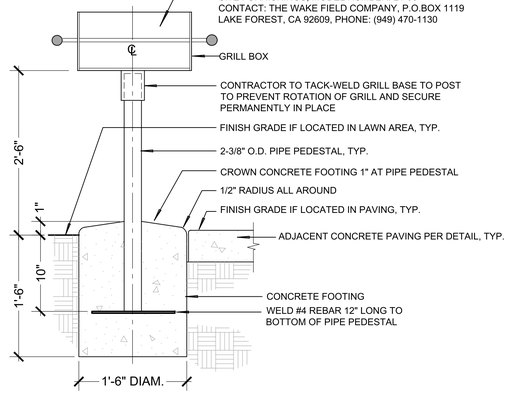
NOTES:

1. CHAIN LINK FENCE, GATE AND POST MATERIALS SHALL BE GALVANIZED STEEL UNLESS NOTED. ALL COMPONENTS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE SPECIFICATIONS.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. HOLD DOWN CONC. FTG. TO RECEIVE FINISH SURFACE PAVEMENT WHERE FTG. IS NOT SURROUNDED BY LANDSCAPED AREA. IN SUCH CASES, PROVIDE 1" CROWN ON TOP OF ALL POST FTG.'S AT FINISH GRADE.
4. REFER TO STRUCTURAL DRAWING FOR POST FOOTING. INSTALL AS NOTED FOR FENCING 20' AND LOWER.

4/18/06 RWF

E5 BARBEQUE GRILL PEDESTAL

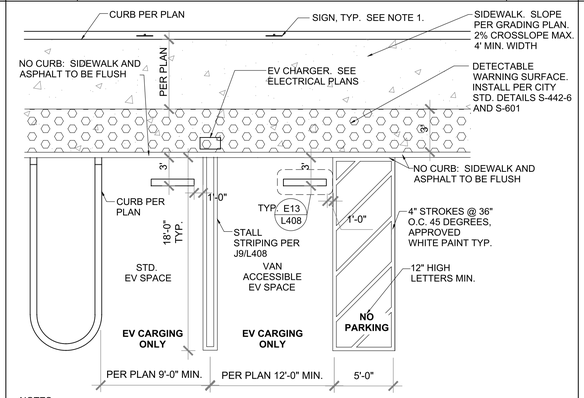
N.T.S. — RP DETAIL 810



ELEVATION

E9 ELECTRIC VEHICLE (EV) PARKING SPACE LAYOUT

N.T.S. — RP DETAIL 500.1

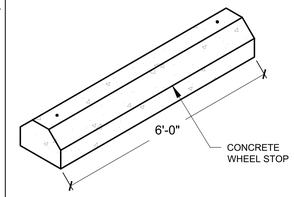


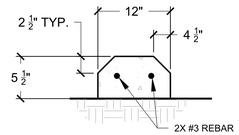
NOTES:

1. CONTRACTOR SHALL PROVIDED CHARGING STATION SIGNAGE IN COMPLIANCE WITH CALIFORNIA BUILDING CODE SECTION 11B-812.8. INSTALL POST/FOOTING AS NOTED PER A13/L408. INSTALL TOP OF FOOTING UNDER ADJACENT PAVING/CURB.
2. "EV CHARGING ONLY" SHALL BE IN LETTERS 12 INCHES HIGH MINIMUM. THE CENTERLINE OF THE TEXT SHALL BE A MAXIMUM OF 6 INCHES FROM THE CENTERLINE OF THE VEHICLE SPACE AND ITS LOWER CORNER AT, OR LOWER SIDE ALIGNED WITH, THE END OF THE PARKING SPACE LENGTH.
3. STRIPING SHALL BE PAINTED WITH TWO COATS OF FAST DRY TRAFFIC PAINT.
4. CONFIRM PARKING SIGN TEXT/GRAPHICS WITH PROJECT MANAGER PRIOR TO ORDERING.
5. INTERNATIONAL SYMBOL OF ACCESSIBILITY NOT REQUIRED ON PARKING SPACE.

E13 CONCRETE WHEEL STOP

N.T.S.





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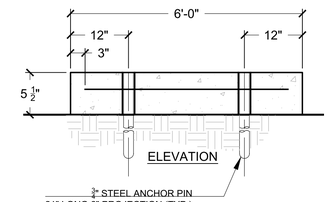


ELEVATION

NOTES

1. WHEEL STOP SHALL BE PREFABRICATED P.C. CONCRETE - 3500 PSI

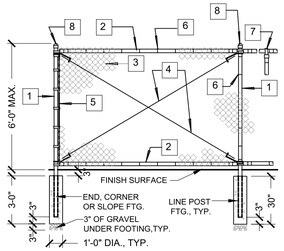
OPTIONS (OPTIONS CHECKED SHALL PREVAIL)

☐ VINYL COATED CHAIN LINK FABRIC SHALL BE AS INDICATED IN LANDSCAPE CONSTRUCTION NOTES (LCN). ALL FENCE MATERIALS SHALL BE AS INDICATED HEREON AND PAINTED PER LCN TO MATCH THE FABRIC COLOR. THE COLOR SHALL BE BLACK.

☒ ALL FENCING SHALL HAVE A STANDARD GALVANIZED FINISH.

A1 SIX FOOT CHAINLINK FENCE

N.T.S. — RP DETAIL 502



ELEVATION

FENCING MATERIALS

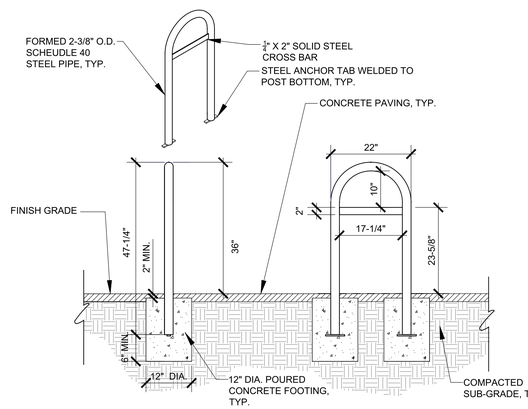
1. POSTS: END, CORNER AND SLOPE POSTS 2-7/8" O.D., LINE POSTS 2-3/8" O.D. POST SPACING TO BE 10'-0" MAX.
2. RAILS: TOP AND BOTTOM RAILS 1-5/8" O.D.
3. FABRIC; 9 GAUGE, 2" MESH, KNUCKLE TOP AND BOTTOM, PLACE ON PATH OR EXTERIOR SIDE OF POSTS.
4. TRUSS ROD: 3/8" DIAM. THREADED AT BOTH ENDS AND TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO RAIL ENDS. TRUSS PANEL SHALL BE LOCATED AT END AND CORNER PANELS OF 30" OR GREATER TURN AND AT INTERVALS NOT TO EXCEED 100'. HOG RING FABRIC TO RODS AT MAX. 3'-0" O.C.
5. STRETCHER BAR: 3/16" X 3/4" WITH 1/8" X 1" TENSION BANDS AT 1'-0" O.C.
6. TIE WIRES: 11 GAUGE AT 1'-6" O.C. AT TOP, BOTTOM AND LINE POSTS.
7. LINE POST EYE TOPS & RAIL ENDS SHALL BE MALLEABLE IRON OR PRESSED STEEL. SECURE RAIL ENDS TO POSTS WITH 1/8" X 1" BRACE BANDS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.

NOTES:

1. CHAIN LINK FENCE MATERIALS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE LCN.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. THE BOTTOM OF THE FABRIC SHALL BE POSITIONED ONE INCH ABOVE FINISH GRADE.
4. TOP OF CONC. FTG. TO BE 3" ABOVE FINISH GRADE IN PAVED AREAS. IN LANDSCAPED AREAS, TOP OF FOOTING SHALL BE 2" ABOVE FINISH GRADE. PROVIDE 1" CROWN ON TOP OF ALL POST FTG.'S AT FINISH GRADE.
5. CONC. FTG. TO BE 2500 PSI @ 28 DAYS. PROVIDE 3" OF GRAVEL UNDER CONC. FTG

A5 BIKE RACK

N.T.S.

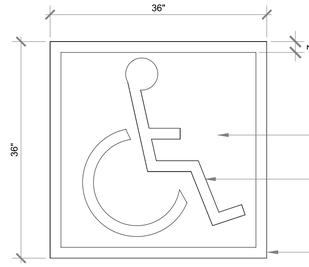


NOTES:

1. BICYCLE RACK SHALL BE MODEL: BRWS-161 BY VICTOR STANLEY, INC. OR APPROVED EQUAL. STAINLESS STEEL FINISH. FOR ORDERING CONTACT: DAVID SKALKA, AVALON AMENITIES, (951) 299-9394. SEE DRAWINGS FOR QUANTITY AND LOCATION.

A9 INTERNATIONAL SYMBOL OF ACCESSIBILITY

N.T.S. — DETAIL 3--

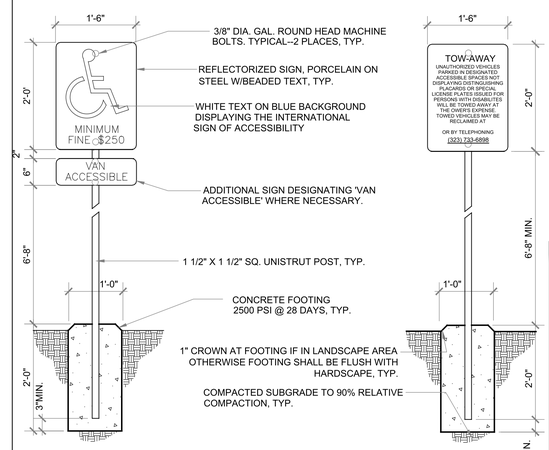


NOTES:

1. THE SYMBOL SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE COLOR NO. 15090 IN FEDERAL STANDARD 595B.
2. ALL WORK SHALL COMPLY WITH "THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990".
3. THE SYMBOL SHALL COMPLY WITH SHALL COMPLY WITH 11B-703.7.2.1.
4. THE CENTERLINE OF THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE A MAXIMUM OF 6" FROM THE CENTERLINE OF THE PARKING SPACE, ITS SIDES PARALLELL TO THE LENGTH OF THE PARKING SPACE AND ITS LOWER CORNER AT OR LOWER SIDE ALIGNED WITH THE END OF THE PARKING SPACE.
5. SHALL BE PAINTED WITH FAST DRY TRAFFIC PAINT.

A13 ACCESSIBLE PARKING SIGNS

N.T.S.



NOTES:

1. CONTRACTOR SHALL CONFIRM SIGNAGE LETTERING WITH PROJECT MANAGER PRIOR TO ORDERING.

BUREAU OF ENGINEERING
OFFICIAL RECORD

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

	DATE:	LIC. NO.: 3940
LANDSCAPE ARCHITECT: JANE ADRIAN	04/21/2021	
DESIGNED BY: GREG MOESER	04/21/2021	
DRAWN BY: GREG MOESER	04/21/2021	
CHECKED BY: RICHARD FISHER	04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021	

ARCHITECTURAL DIVISION

JANE M. ADRIAN — LANDSCAPE ARCHITECT — NO. 3940 — Exp. Date 10-31-21 — Revised 04-05-21 — Date — STATE OF CALIFORNIA

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

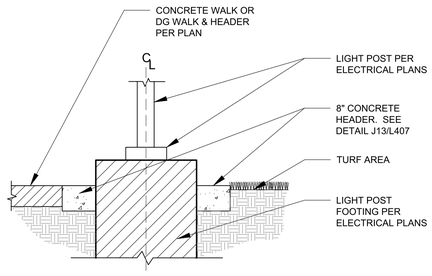
WORK ORDER NO. E170163A

PLAN FILE NO.

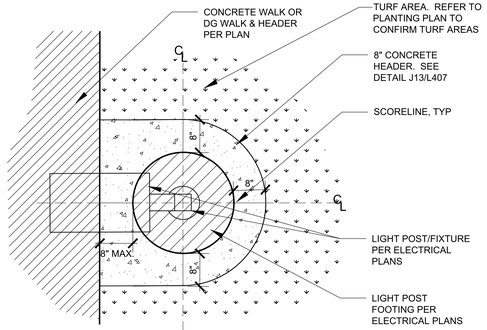
DRAWING NO. L408

SHEET 38 OF SHEETS 74

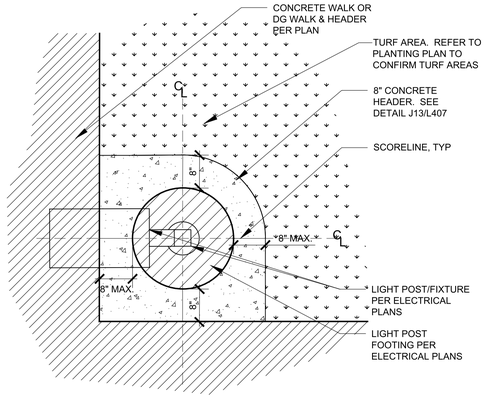
PLOTTED: 8/24/2021 3:25 PM



CONDITION A & B
SECTION

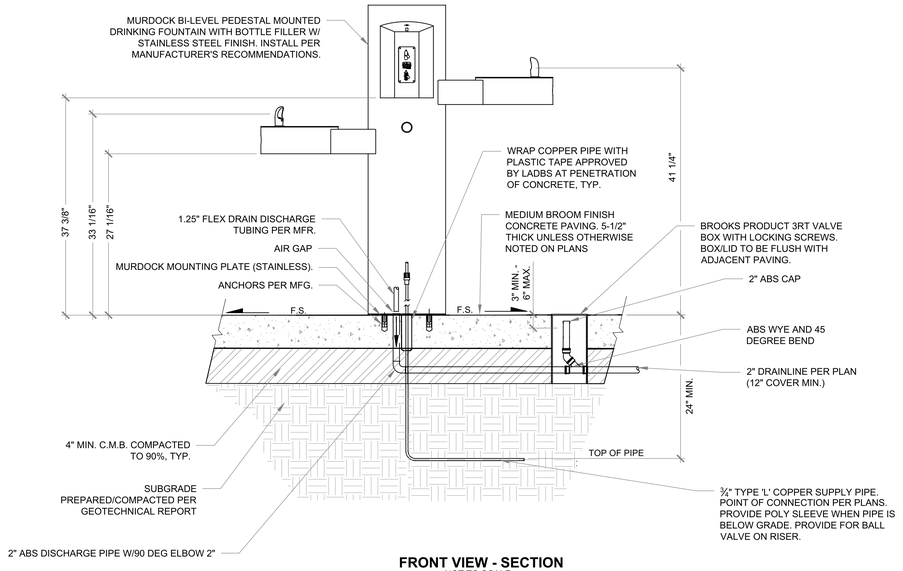


CONDITION A
PLAN VIEW

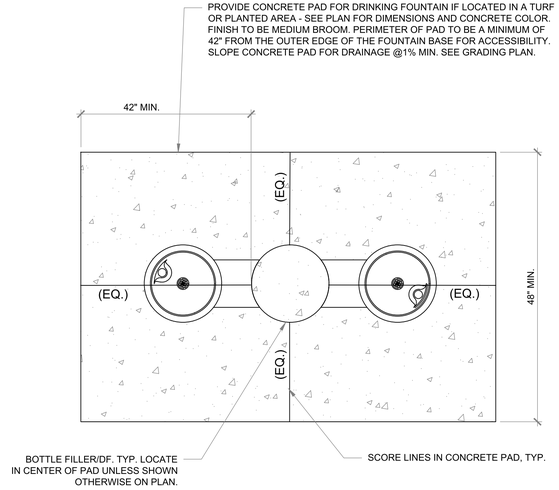


CONDITION B
PLAN VIEW

NOTES:
1. LIGHT POSTS IN NON-TURF AREAS DO NOT REQUIRE A HEADER.
2. LIGHT POSTS NOT ADJACENT TO PAVING: PROVIDE 8" HEADER AS A RADIUS ON ALL SIDES.



FRONT VIEW - SECTION
NOT TO SCALE



PLAN VIEW - LAYOUT
NOT TO SCALE

NOTE:
1. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO THE CITY'S PROJECT MANAGER FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
2. REFER TO MANUFACTURER'S INSTALLATION & MAINTENANCE INSTRUCTIONS FOR OPTION INSTALLATION.
3. INSTALL WITH MURDOCK MOUNTING PLATE
4. MDL# IS GYQ84-CV-IAP-RAP.
5. WRAP 6" PERFORATED PIPE IN A COURSE WEAVE FILTER FABRIC.

DOMESTIC LINE STERILIZATION PROCEDURE:

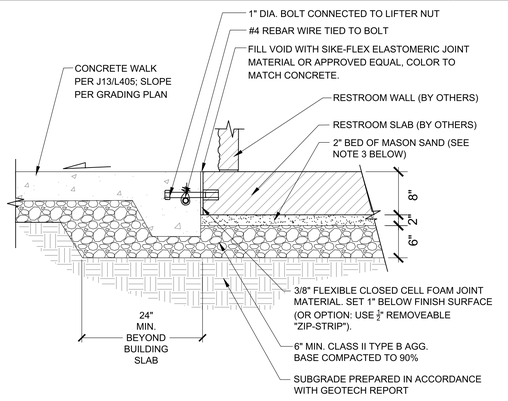
FLUSH DOMESTIC WATER LINES COMPLETELY. INJECT CHLORINE GAS OR LIQUID DISINFECTANT INTO LINE THROUGH A ¾" SERVICE COCK USING A PROPORTIONING PUMP AT A POINT AS CLOSE AS IS PRACTICAL TO THE WATER METER. OPEN BUBBLERS ON ALL UNITS INSTALLED SUFFICIENTLY TO DISTRIBUTE DISINFECTANT THROUGHOUT SYSTEM, SO THAT A MINIMUM CONCENTRATION OF 50 PPM, AS VERIFIED BY TEST, IS MEASURED AT ALL UNITS. DISINFECTANT SHALL REMAIN IN SYSTEM FOR 24 HOURS MINIMUM. AT CONCLUSION, RESIDUAL RETENTION OF DISINFECTANT SHALL NOT BE LESS THAN 10 PPM. ALL LINES SHALL BE FLUSHED THOROUGHLY. A WATER SAMPLE SHALL BE TESTED BY AN APPROVED TESTING LABORATORY. RESULTS SHALL SHOW:
- COLIFORM-AEROGENES ORGANISMS: NEGATIVE
- TOTAL BACTERIA PLATE COUNT: LESS THAN 100/CUBIC CENTIMETER
- WATER POTABILITY: SAFE TO USE. IF RESULTS ARE NEGATIVE, STERILIZATION SHALL BE REPEATED UNTIL STANDARD IS MET.

BUREAU OF ENGINEERING
OFFICIAL RECORD

E5	MURDOCK ACCESSIBLE DRINKING FOUNTAIN	
N.T.S.	BOE Version Aug/18	RP DETAIL L1732

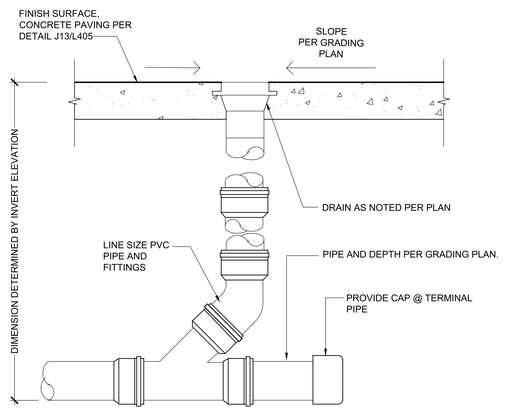
A1	MOWCURB/HEADER AT LIGHT POST (TURF AREAS)
N.T.S.	

A5	RESTROOM PAD PREPARATION
N.T.S.	



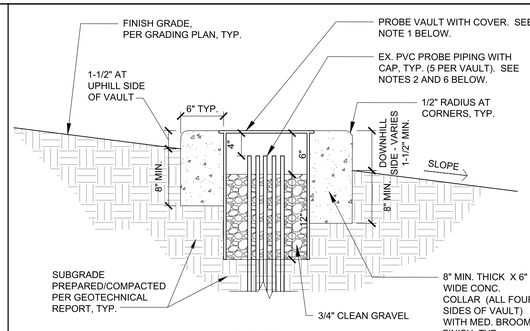
NOTES:
1. CONTRACTOR SHALL PREPARE SUBGRADE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
2. CONTRACTOR SHALL PROVIDE/INSTALL AGGREGATE BASE.
3. CONTRACTOR SHALL STOCKPILE COARSE MASON SAND IN SUFFICIENT QUANTITY TO PROVIDE A 2" SAND COURSE UNDER THE BUILDING PAD AND EXTENDING 24" IN ALL DIRECTIONS AND FOR BEDDING UNDERGROUND RESTROOM UTILITY TRENCHES. SAND TO BE INSTALLED/SCREEDED BY RESTROOM INSTALLER.
4. SEE ADDITIONAL "PREFAB RESTROOM NOTES" ON LANDSCAPE CONSTRUCTION PLANS.

A9	AREA DRAIN - PAVEMENT
N.T.S.	



SECTION

A13	LANDFILL PROBE VAULT
N.T.S.	



SECTION

NOTES:
1. PROBE VAULT SHALL BE 12" X 12" X 18" MODEL A - LOCKING, WATER RESISTANT, MONITORING WELL VAULT, PART 7801050, BY HOLE PRODUCTS OR APPROVED EQUAL. CONTACT 844.573.0854, WWW.HOLEPRODUCTS.COM. LOCK TO BE PROVIDED BY OTHERS.
2. REFER TO GRADING PLAN FOR PROBE VAULT ELEVATIONS.
   A. VAULTS TO BE LOWERED: CUT EXISTING PROBE PIPE TO ELEVATION NOTED PER DETAIL. PROBE PIPES HAVE DIFFERENT COLOR-CODED CAPS; CONTRACTOR SHALL MARK PIPE CAP COLOR ON PORTION OF PIPE TO REMAIN PRIOR TO REMOVING CAP/CUTTING AND ENSURE PIPE CAP IS REINSTALLED BACK ONTO ORIGINAL PROBE PIPE. CONTRACTOR SHALL USE PVC CUTTER AND AVOID GETTING SHAVINGS INSIDE THE PIPE.
   B. VAULTS TO BE REPLACED AT EXISTING GRADE: PROBE PIPES/CAPS TO REMAIN AT EXISTING ELEVATION; INSTALL REMAINDER OF PROBE VAULT AS NOTED PER DETAIL.
4. SLOPE FINISH GRADE AWAY FROM VAULT TO ALLOW SURFACE DRAINAGE, 2% MIN.
5. ALSO REFER TO LANDSCAPE CONSTRUCTION NOTES FOR CONCRETE PAVING.
6. MAINTAIN 1.5"-2" SPACING BETWEEN PROBE PIPES AT SURFACE.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

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SHEET ISSUE DATE: 8/10/2021 4:21 PM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L409-LXX_CONS_DETAILS.DWG

REVISION DATES (DESIGN STAGE ONLY)

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

JANE M. ADRIAN
LANDSCAPE ARCHITECT
No. 3940
10-31-21
Renewal date
04-05-21
Date
STATE OF CALIFORNIA

		LIC. NO.: 3940	DATE:
LANDSCAPE ARCHITECT:	JANE ADRIAN		04/21/2021
DESIGNED BY:	GREG MOESER		04/21/2021
DRAWN BY:	GREG MOESER		04/21/2021
CHECKED BY:	RICHARD FISHER		04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

ARCHITECTURAL DIVISION

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS
SHEET 5

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L409
SHEET 39 OF SHEETS 74

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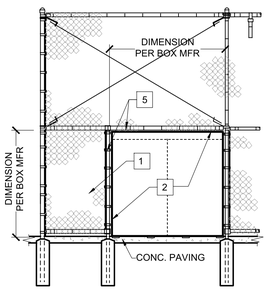


ELEVATION

NOTES:

1. FOR FENCE MATERIALS AND METHODS OF CONSTRUCTION, SEE DETAIL J5/L413.
2. INSTALL INFIELD STORAGE BOX. CAPITOL ENTERPRISES (626-357-3768) "BALL BOX" MODEL # IS 7256 OR APPROVED EQUAL. COLOR: GREEN. INCLUDE ESCAPE LATCH LOCKING DEVICE.
3. STORAGE BOX SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION. THE FRONT OF THE BOX SHALL OPEN TOWARDS THE INFIELD AND SHALL BE FLUSH WITH THE FENCE.
4. LOCATE STORAGE BOX ADJACENT TO THE LINE POST. ALL FENCE FABRIC SHALL BE INSTALLED AS TIGHTLY TO THE BOX AS POSSIBLE.
5. INSTALL ADDITIONAL POST, FOOTING, STRETCHER BAR, TENSION BANDS, AND TIE WIRES.
6. INSTALL A 5" THICK CONCRETE PAD, 7' LONG X 5' WIDE, IF STORAGE BOX IS TO BE PLACED IN TURF/DG AREA. SLOPE CONCRETE PAD TOWARD INFIELD @ 2%.

RP VERSION 9/29/94 BSL ; REV. RWF 9/19/06

J1 BASEBALL INFIELD STORAGE BOX

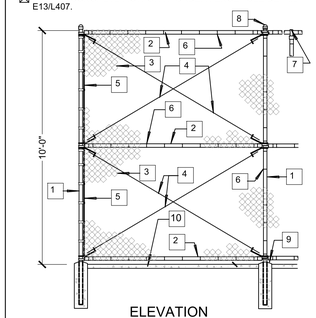
N.T.S. — RP DETAIL 542

OPTIONS (OPTIONS CHECKED SHALL PREVAIL)

☐ VINYL COATED CHAIN LINK FABRIC SHALL BE AS SPEC. IN NTC. ALL FENCE MATERIALS SHALL BE AS INDICATED HEREON AND PAINTED PER NTC TO MATCH FABRIC COLOR. COLOR SHALL BE _____.

☒ ALL FENCING SHALL HAVE A STANDARD GALV. FINISH.

☒ INSTALL CONCRETE MOW STRIP UNDER FENCE - SEE DETAIL E13/L407.



ELEVATION

FENCING MATERIALS

1. POSTS: END, CORNER POSTS 5-9/16" O.D., LINE POSTS 4-1/2" O.D. POST SPACING TO BE 10'-0" MAX.
2. RAILS: TOP ,MID AND BOTTOM RAILS 1-5/8" O.D.
3. FABRIC: 9 GAUGE, 2" MESH, KNUCKLE TOP AND BOTTOM, PLACE ON ACTIVITY OR LAWN SIDE OF POSTS.
4. TRUSS ROD: 3/8 IN. DIAM. THREADED AT BOTH ENDS AND TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO RAIL ENDS. TRUSS PANEL SHALL BE LOCATED AT END AND CORNER PANELS OF 30" OR GREATER TURN AND AT INTERVALS NOT TO EXCEED 100'. HOG RING FABRIC TO RODS AT MAX. 3'-0" O.C.
5. STRETCHER BAR: 3/16" X 3/4" WITH 1/8" X 1" TENSION BANDS AT 1'-0" O.C.
6. TIE WIRES: 11 GAUGE AT 1'-6" O.C. AT TOP, MID, BOTTOM RAILS AND LINE POSTS.
7. LINE POST EYE TOPS & RAIL ENDS SHALL BE MALLEABLE IRON OR PRESSED STEEL.SECURE RAIL ENDS TO POSTS WITH 1/8" X 1" BRACE BANDS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
9. PROVIDE A 1" CROWN AT TOP OF ALL POST FOOTINGS. (MODIFY FOR MOW STRIP OPTION).
10. INSTALL CONCRETE MOW STRIP IF CHECKED UNDER OPTIONS ABOVE.

NOTES:

1. CHAIN LINK FENCE MATERIALS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE NOTICE TO CONTRACTORS.
2. CONC. FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. THE BOTTOM OF THE FABRIC SHALL BE POSITIONED 1" ABOVE FINISH GRADE.
4. REFER TO STRUCTURAL DRAWINGS FOR POST FOOTING.
5. AT CONNECTION BETWEEN TWO FENCE HEIGHTS, INSTALL TERMINAL POST SIZE NOTED OF LARGER FENCE HEIGHT.

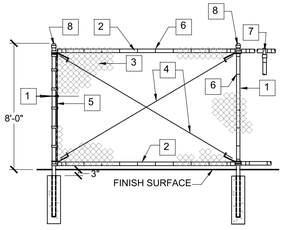
J5 10' TALL CHAIN LINK FENCE

N.T.S. — RP DETAIL 506

OPTIONS

PERIMETER PARK FENCE: FABRIC SHALL BE 9 GAUGE, 1 IN. MESH, KNUCKLE TOP AND BOTTOM, VINYL COATED BLACK TO MATCH EXSTING (VERIFY). PLACE ON PATH OR EXTERIOR SIDE OF POSTS. ALL OTHER FENCE MATERIALS SHALL BE GALVANIZED TO MATCH EXISTING (VERIFY).

BASKETBALL COURT FENCE: FABRIC SHALL BE FABRIC SHALL BE 9 GAUGE, 2 IN. MESH, KNUCKLE TOP AND BOTTOM. ALL FENCING SHALL HAVE A STANDARD GALVANIZED FINISH.



ELEVATION

FENCING MATERIALS

1. POSTS: END, CORNER AND SLOPE POSTS 2-7/8 IN. O.D., LINE POSTS 2-3/8 IN. O.D. POST SPACING TO BE 10'-0" MAX.
2. RAILS: TOP AND BOTTOM RAILS 1-5/8 IN. O.D.
3. FABRIC: SEE OPTIONS ABOVE.
4. TRUSS ROD: 3/8 IN. DIAM. THREADED AT BOTH ENDS AND TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO RAIL ENDS. TRUSS PANEL SHALL BE LOCATED AT END AND CORNER PANELS OF 30" OR GREATER TURN AND AT INTERVALS NOT TO EXCEED 100'. HOG RING FABRIC TO RODS AT MAX. 3'-0" O.C.
5. STRETCHER BAR: 3/16" X 3/4" WITH 1/8" X 1" TENSION BANDS AT 1'-0" O.C.
6. TIE WIRES: 11 GAUGE AT 1'-6" O.C. AT TOP, BOTTOM AND LINE POSTS.
7. LINE POST EYE TOPS & RAIL ENDS SHALL BE MALLEABLE IRON OR PRESSED STEEL. SECURE RAIL ENDS TO POSTS WITH 1/8" X 1" BRACE BANDS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.

NOTES:

1. CHAIN LINK FENCE MATERIALS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE LCN.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. THE BOTTOM OF THE FABRIC SHALL BE POSITIONED ONE INCH ABOVE FINISH GRADE.
4. TOP OF CONC. FTG. TO BE 3" ABOVE FINISH GRADE IN PAVED AREAS. IN LANDSCAPED AREAS, TOP OF FOOTING SHALL BE 2" ABOVE FINISH GRADE. PROVIDE 1" CROWN ON TOP OF ALL POST FTG.'S AT FINISH GRADE.
5. SEE STRUCTURAL DRAWINGS FOR POST FOOTING. INSTALL AS NOTED FOR FENCING 20' HEIGHT OR LOWER.

J9 EIGHT FOOT CHAINLINK FENCE

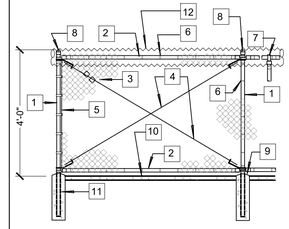
N.T.S. — RP DETAIL 504

OPTIONS (OPTIONS CHECKED SHALL PREVAIL)

☐ VINYL COATED CHAIN LINK FABRIC SHALL BE AS SPECIFIED IN THE NOTICE TO CONTRACTORS. ALL FENCE MATERIALS SHALL BE AS INDICATED HEREON AND PAINTED PER NOTICE TO CONTRACTORS TO MATCH THE FABRIC COLOR. THE COLOR SHALL BE MATCH EXISTING.

☒ ALL FENCING SHALL HAVE A STANDARD GALVANIZED FINISH.

☒ INSTALL CONCRETE MOW STRIP UNDER FENCE - SEE DETAIL E13/L407.



ELEVATION

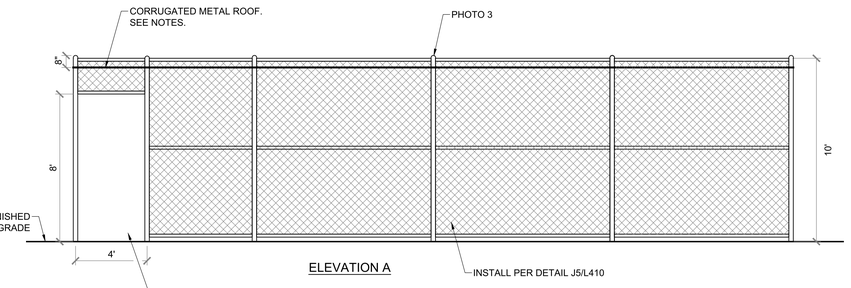
1. POSTS: END, CORNER AND SLOPE POSTS 2-7/8 IN. O.D., LINE POSTS 2-3/8 IN. O.D. POST SPACING TO BE 10'-0" MAX.
2. RAILS: TOP AND BOTTOM RAILS 1-5/8 IN. O.D.
3. FABRIC: 9 GAUGE, 2 IN. MESH, KNUCKLE TOP AND BOTTOM, PLACE ON ACTIVITY OR LAWN SIDE OF POSTS.
4. TRUSS ROD: 3/8 IN. DIAM. THREADED AT BOTH ENDS AND TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO RAIL ENDS. TRUSS PANEL SHALL BE LOCATED AT END AND CORNER PANELS OF 30" OR GREATER TURN AND AT INTERVALS NOT TO EXCEED 100'. HOG RING FABRIC TO RODS AT MAX. 3'-0" O.C.
5. STRETCHER BAR: 3/16 X 3/4 IN. WITH 1/8 X 1 IN. TENSION BANDS AT 1'-0" O.C.
6. TIE WIRES: 11 GAUGE AT 1'-6" O.C. AT TOP, BOTTOM AND LINE POSTS.
7. LINE POST EYE TOPS & RAIL ENDS SHALL BE MALLEABLE IRON OR PRESSED STEEL. SECURE RAIL ENDS TO POSTS WITH 1/8 X 1 IN. BRACE BANDS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
9. PROVIDE A 1 IN. CROWN AT TOP OF ALL POST FOOTINGS. (MODIFY FOR MOW STRIP OPTION).
10. INSTALL CONCRETE MOW STRIP IF CHECKED UNDER OPTIONS ABOVE.
11. SEE STRUCTURAL DRAWINGS FOR POST FOOTING.
12. INSTALL PROTECTIVE OUTFIELD FENCE GUARD SKU# GRP10546. AVAILABLE FROM: BSNSPORTS.COM, (800) 856-3488. INSTALL PER MANUFACTURER'S INSTRUCTIONS

NOTES:

1. CHAIN LINK FENCE MATERIALS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE NOTICE TO CONTRACTORS.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. THE BOTTOM OF THE FABRIC SHALL BE POSITIONED ONE INCH ABOVE FINISH GRADE.

J13 FOUR FOOT CHAINLINK FENCE

N.T.S. — RP DETAIL 500



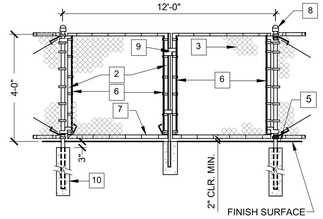
ELEVATION A

NOTES:

1. DUGOUT ROOF COVER IS TO BE 2 ½" X ½", 20 GAUGE, CORRUGATED METAL (ALUMINUM), (CLASS A ROOF) ATTACHED TO ROOF SUPPORT POLES WITH ⅜" X 1 ¼" TEC SCREWS AND RUBBER WASHER AT 24" O.C.
2. CORRUGATED METAL SHEETS SHALL HAVE 6" MINIMUM OVERLAPS WHEN STACK JOINING 2 PIECES.
3. DUGOUT ROOF FRAME POST SIZE TO BE SAME SIZE AS TOP AND BOTTOM RAILS OF 8' CHAIN LINK FENCE DETAIL J9/L410.
4. DUGOUT ROOF FRAME POSTS TO BE WELDED TOGETHER. SEE PHOTO 1.
5. WELD DUGOUT ROOF FRAME TO SIDE OF 10' HIGH FENCE POSTS, 8" BELOW TOP OF POST AND ON TOP OF 8' HIGH DUGOUT FENCE POST CAPS. SEE PHOTO 2 & PHOTO 3.
6. SLOPE DUGOUT ROOF TO DRAIN WATER AWAY FROM BALL FIELD.
7. SEE LANDSCAPE CONSTRUCTION NOTES (CHAIN LINK FENCING) FOR ADDITIONAL REQUIREMENTS.

GATE MATERIALS

1. POSTS: POSTS 3-1/2" O.D. WITH 12" DIA. X 4'-0" DEEP FOOTINGS.
2. GATE FRAMES: TOP, BOTTOM AND SIDE MEMBERS 2-3/8" O.D., MID-RAIL 1-5/8" O.D. MITER GATE FRAME CORNERS, WELD AND GRIND SMOOTH.
3. FABRIC: 9-GAUGE, 2" SQUARE MESH, KNUCKLE TOP AND BOTTOM, PLACE ON EXTERIOR SIDE OF GATES.
4. HINGES: INDUSTRIAL BULLDOG HINGE (180½ SWING), 2 HINGES PER GATE, ONE AT TOP AND BOTTOM.
5. PROVIDE A 1" CROWN AT TOP OF ALL POST FOOTINGS.
6. STRETCHER BAR: 3/16" X 3/4" WITH 1/8" X 1" TENSION BANDS AT 1'-0" O.C.
7. TIE WIRES: 11-GAUGE & 1'-6" O.C. AT GATE FRAME TOP, BOTTOM AND MID RAILS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
9. CAST ALUMINUM FORK LATCH.
10. INSTALL POST FOOTING AS NOTED PER STRUCTURAL DRAWINGS FOR FENCING 20' AND LOWER.



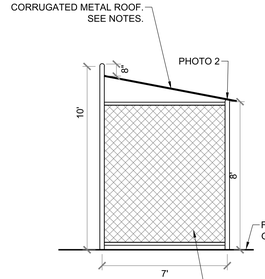
ELEVATION

NOTES :

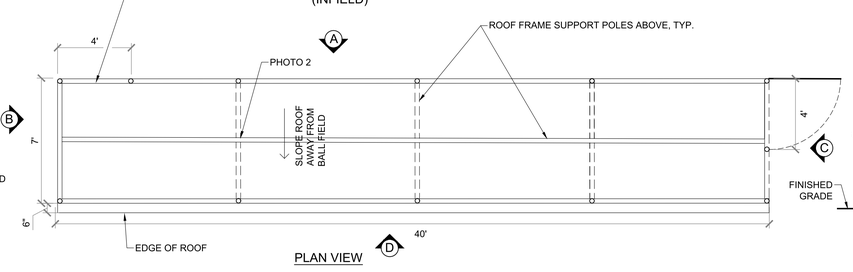
1. CHAIN LINK FENCE, GATE AND POST MATERIALS SHALL BE GALVANIZED STEEL UNLESS NOTED. ALL COMPONENTS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE SPECIFICATIONS.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. HOLD DOWN CONC. FTG. TO RECEIVE FINISH SURFACE PAVEMENT WHERE FTG. IS NOT SURROUNDED BY LANDSCAPED AREA. IN SUCH CASES, PROVIDE 1" CROWN ON TOP OF ALL POST FTG.'S AT FINISH GRADE.
4. INSTALL FENCE GUARD AT TOP OF GATE. SEE DETAIL J13, THIS SHEET.

E13 4' TALL CHAIN LINK DOUBLE-LEAF GATES

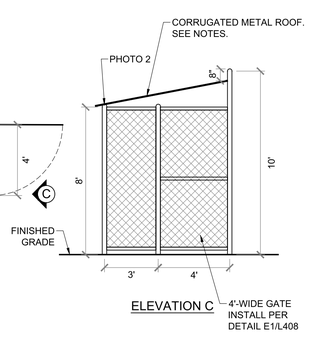
N.T.S. — RP DETAIL 504.2



ELEVATION B



PLAN VIEW



ELEVATION C



PHOTO 1



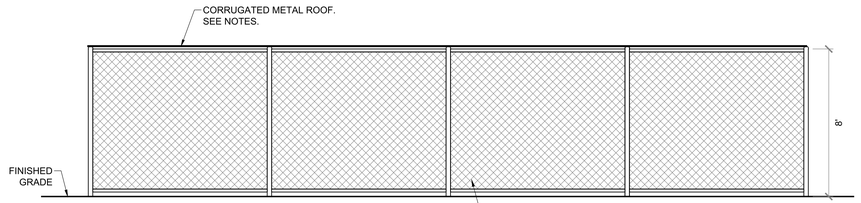
PHOTO 2



PHOTO 3



PHOTO 4



ELEVATION D

A1 BASEBALL DUGOUT

N.T.S.

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT: JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
DESIGNED BY: GREG MOESER — 04/21/2021
DRAWN BY: GREG MOESER — 04/21/2021
CHECKED BY: RICHARD FISHER — 08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT

JANE ADRIAN — LANDSCAPE ARCHITECT — NO. 3940 — STATE OF CALIFORNIA — 10-31-21 — Registration Expiration — 04-05-21 — Date

BUREAU OF ENGINEERING — OFFICIAL RECORD

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS SHEET 6

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L410

SHEET 40 OF SHEETS 74

PLOTTED: 8/24/2021 3:27 PM

REVISION DATES (DESIGN STAGE ONLY)

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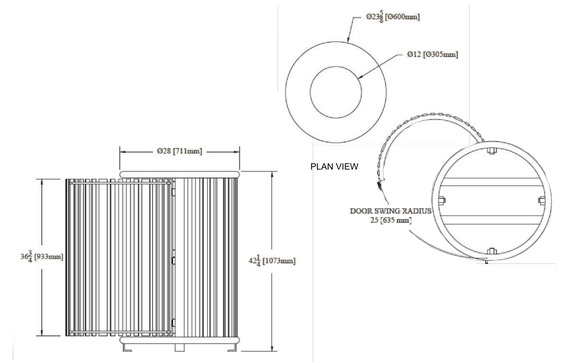
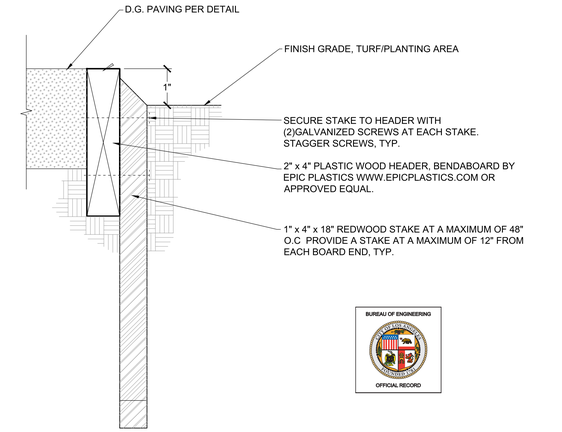
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/10/2021 4:21 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L409-LXX_CONS_DETAILS.DWG



ELEVATION

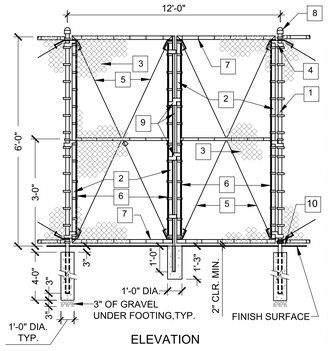
NOTES:
1. TRASH CANS: KEYSTONE RIDGE MODEL RE3D-55 "READING" ROUND LITTER RECEPTACLES: SIDE ACCESS DOOR WITH LOCK TABS, SURFACE MOUNT PER MANUFACTURER'S INSTRUCTIONS, FLAT LID-NO LINER. COLOR: QUICKSILVER PCSS/90416, OR APPROVED EQUAL.
2. PROVIDE CONCRETE PAD FOR MOUNTING IN DG AREAS.

J13	TRASH CAN
N.T.S.	



NOTES:
1. BENDA BOARD ENDS SHOULD NOT BE SCREWED/NAILED TOGETHER.

E13	PLASTIC WOOD HEADER
N.T.S.	RP DETAIL ---



ELEVATION

GATE MATERIALS

1. POSTS: POSTS 3-1/2" O.D. WITH 12" DIA. X 4'-0" DEEP FOOTINGS.
2. GATE FRAMES: TOP, BOTTOM AND SIDE MEMBERS 2-3/8" O.D., MID-RAIL 1-5/8" O.D. MITER GATE FRAME CORNERS, WELD AND GRIND SMOOTH.
3. FABRIC: 9-GAUGE, 2" SQUARE MESH, KNUCKLE TOP AND BOTTOM, PLACE ON EXTERIOR SIDE OF GATES.
4. HINGES: INDUSTRIAL BULLDOG HINGE (180¼ SWING), 2 HINGES PER GATE, ONE AT TOP AND BOTTOM.
5. TRUSS ROD: 3/8" DIA. THREADED AT BOTH ENDS & TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO GATE FRAME.
6. STRETCHER BAR: 3/16" X 3/4" WITH 1/8" X 1" TENSION BANDS AT 1'-0" O.C.
7. TIE WIRES: 11-GAUGE & 1'-6" O.C. AT GATE FRAME TOP, BOTTOM AND MID RAILS.
8. POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
9. CAST ALUMINUM FORK LATCH.
10. PROVIDE A 1" CROWN AT TOP OF ALL POST FOOTINGS.

NOTES :
1. CHAIN LINK FENCE, GATE AND POST MATERIALS SHALL BE GALVANIZED STEEL UNLESS NOTED. ALL COMPONENTS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE SPECIFICATIONS.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. HOLD DOWN CONC. FTG. TO RECEIVE FINISH SURFACE PAVEMENT WHERE FTG. IS NOT SURROUNDED BY LANDSCAPED AREA. IN SUCH CASES, PROVIDE 1" CROWN ON TOP OF ALL POST FTG.'S AT FINISH GRADE.
4. CONC. FTG. TO BE 2500 PSI @ 28 DAYS. PROVIDE 3" OF GRAVEL UNDER CONC. FTG

A13	6' TALL CHAIN LINK DOUBLE-LEAF GATES
N.T.S.	

BUREAU OF ENGINEERING
OFFICIAL RECORD

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LIC. NO.: 3940

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY:	GREG MOESER	04/21/2021
DRAWN BY:	GREG MOESER	04/21/2021
CHECKED BY:	RICHARD FISHER	04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021

SHEET TITLE: CONSTRUCTION DETAILS
SHEET 7
PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

BUREAU OF ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
JANE M. ADRIAN
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L411
SHEET 41 OF SHEETS 74

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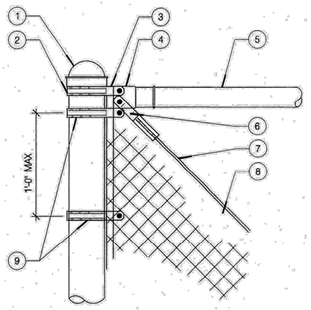
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L409-LXX_CONS_DETAILS.DWG

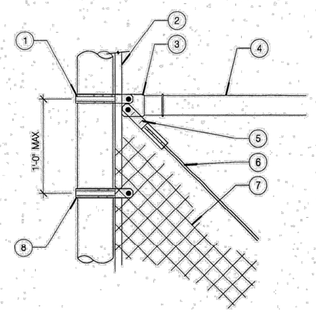
REVISION DATES (DESIGN STAGE ONLY)

1. CAP
2. BRACE BAND
3. TENSION BAR
4. TWO HOLE RAIL END
5. RAIL
6. TRUSS TIGHTENER
7. THREADED TRUSS ROD W/ BOLT
8. CHAIN LINK
9. OFFSET TENSION BAND



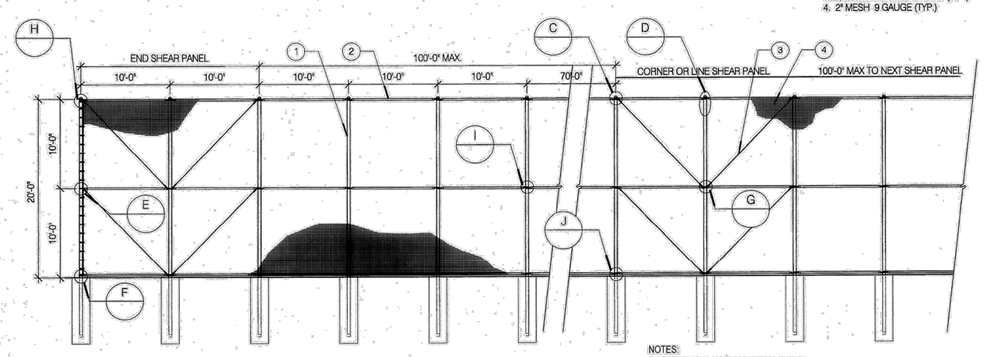
H Connection at Post
Scale: 1 1/2" = 1'-0"

1. BRACE BAND
2. TENSION BAR
3. TWO HOLE RAIL END
4. RAIL
5. TRUSS TIGHTENER
6. THREADED TRUSS ROD W/ BOLT
7. CHAIN LINK
8. OFFSET TENSION BAND



E Connection at Post
Scale: 1 1/2" = 1'-0"

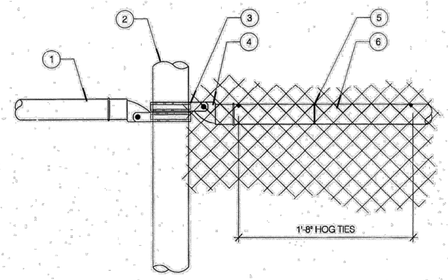
1. POST: TERMINAL/CORNER POST - 5-9/16" O.D., LINE POST - 4-1/2" O.D. (TYP.)
2. RAIL 1 7/8 O.D. DIAMETER CLASS 1 PIPE RAIL (TYP.)
3. 3/8 DIAMETER TRUSS ROD (TYP.)
4. 2" MESH 9 GAUGE (TYP.)



NOTES:
1. REFER TO PLAN FOR FENCE LAYOUT.
2. AT CONNECTION BETWEEN TWO DIFFERENT FENCE HEIGHTS, INSTALL TERMINAL POST OF LARGER HEIGHT FENCE.

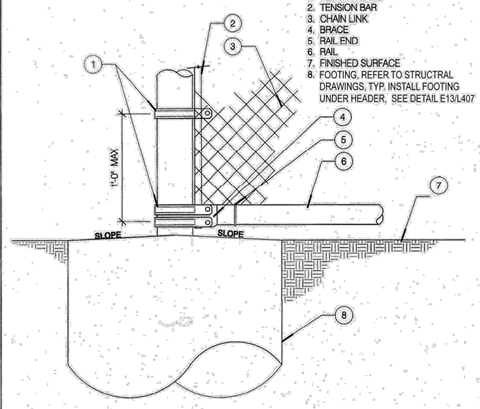
A Elevation 20'-0" Chain Link Fence
Scale: 1/8"=1'-0"

1. RAIL
2. POST
3. BRACE
4. RAIL END
5. FABRIC TIE
6. 2" LAP



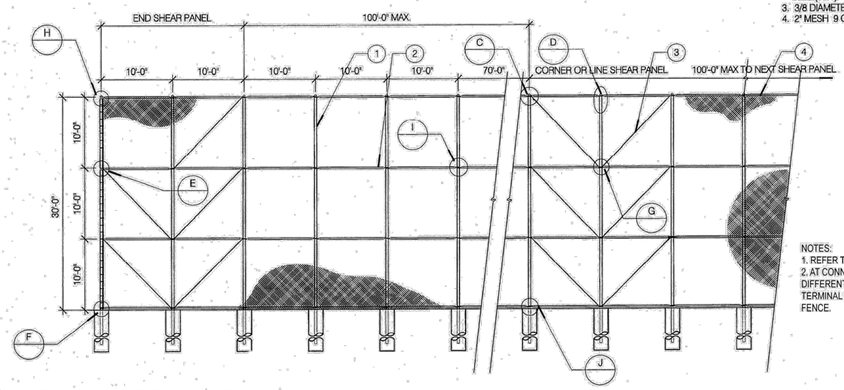
I Rail Connection to Post and Chain Link Fabric Over Lap
Scale: 1 1/2" = 1'-0"

1. TENSION BAND
2. TENSION BAR
3. CHAIN LINK
4. BRACE
5. RAIL END
6. RAIL
7. FINISHED SURFACE
8. FOOTING, REFER TO STRUCTRAL DRAWINGS, TYP. INSTALL FOOTING UNDER HEADER. SEE DETAIL E13/L407



F Connection at Post
Scale: 1 1/2" = 1'-0"

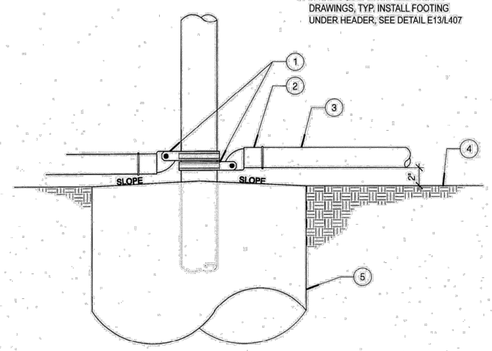
1. POST: TERMINAL/CORNER POST - 8-5/8" O.D., LINE POST - 6-5/8" O.D. (TYP.)
2. RAIL 1 7/8 O.D. DIAMETER CLASS 1 PIPE RAIL (TYP.)
3. 3/8 DIAMETER TRUSS ROD (TYP.)
4. 2" MESH 9 GAUGE (TYP.)



NOTES:
1. REFER TO PLAN FOR FENCE LAYOUT.
2. AT CONNECTION BETWEEN TWO DIFFERENT FENCE HEIGHTS, INSTALL TERMINAL POST OF LARGER HEIGHT FENCE.

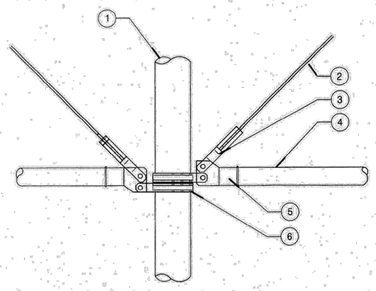
B Elevation 30'-0" Chain Link Fence
Scale: 1" = 10'

1. BRACE
2. RAIL END
3. RAIL
4. FINISHED SURFACE
5. FOOTING, REFER TO STRUCTRAL DRAWINGS, TYP. INSTALL FOOTING UNDER HEADER, SEE DETAIL E13/L407



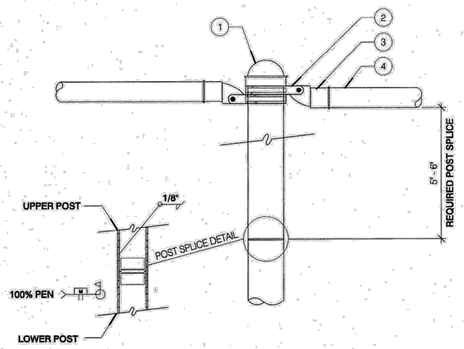
J Rail and Post Connection at Footing
Scale: 1 1/2" = 1'-0"

1. POST
2. THREADED TRUSS ROD
3. TRUSS TIGHTENER
4. RAIL
5. TWO HOLE RAIL END
6. BRACE



G Rail and Truss Connection at Post
Scale: 1 1/2" = 1'-0"

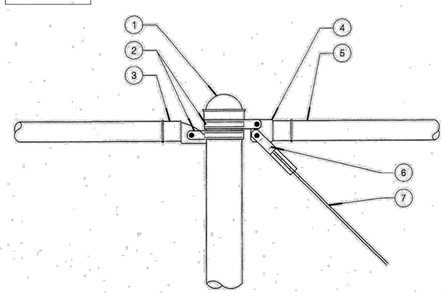
1. CAP
2. BRACE
3. RAIL END
4. RAIL



D Post Splice and Rail to Post Connection
Scale: 1 1/2" = 1'-0"

BUREAU OF ENGINEERING
OFFICIAL RECORD

1. CAP
2. BRACE BAND
3. RAIL END
4. TWO HOLE RAIL END
5. RAIL
6. TRUSS TIGHTENER
7. THREADED TRUSS ROD W/ BOLT



C Rail and Truss Connection at Post
Scale: 1 1/2" = 1'-0"

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FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L409-LXX_CONS_DETAILS.DWG

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/10/2021 4:21 PM

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
REVISION DESCRIPTION | DATE | BY | NO.

RAP FACILITY NO. 837
INDEX NO. RP-300119

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ENGINEERING
CITY OF LOS ANGELES

JANE M. ADRIAN — LANDSCAPE ARCHITECT — LIC. NO. 3940 — EXP. 10-31-21 — STATE OF CALIFORNIA

		DATE:
LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

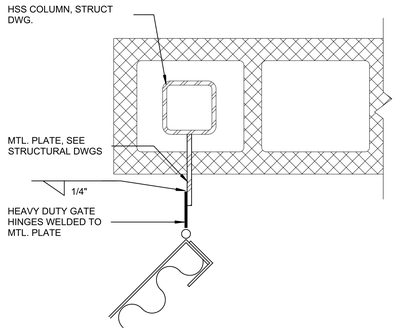
ARCHITECTURAL DIVISION

CITY OF LOS ANGELES
Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

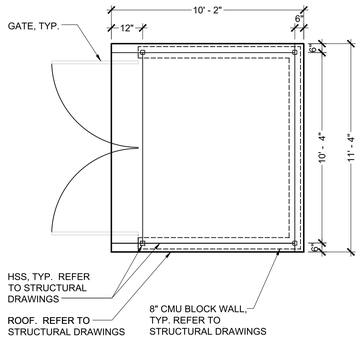
SHEET TITLE: CONSTRUCTION DETAILS
SHEET 8
PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L412
SHEET 42 OF SHEETS 74

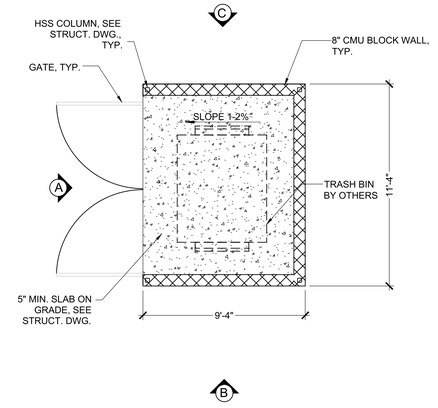
PLOTTED: 8/24/2021 3:28 PM



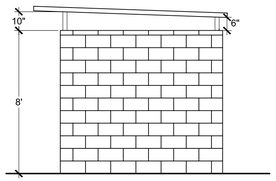
GATE HINGE DETAIL



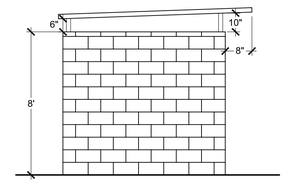
ROOF PLAN



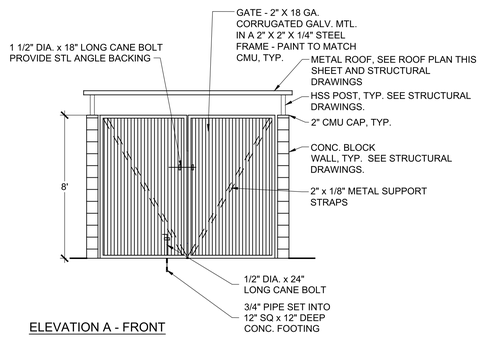
PLAN VIEW



ELEVATION B - SIDE



ELEVATION C - SIDE



ELEVATION A - FRONT

LADBS NOTES:

1. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.

NOTES:

1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR INSTALLATION.
2. ALL METAL WORK SHALL COMPLY WITH THE S.S.P.W.C. "GREENBOOK". ALL PAINTING AND WELDING SHALL FOLLOW REQUIREMENTS OF BCA FOR SHOP AND FIELD INSPECTION.
3. ALL CONNECTIONS SHALL BE FULLY WELDED. ALL WELDS SHALL BE A MINIMUM OF 1/8" THICK W/ COMPLETE PENETRATION AND TENSILE STRENGTH IN CONFORMANCE WITH SSPWC SECTION 304-1.9
4. GRIND ALL WELDS SMOOTH. REMOVE ALL LOOSE MILL, SCALE, RUST, OIL & GREASE PRIOR TO PAINTING.
5. ALL METAL COMPONENTS SHALL BE SHOP PRIMED WITH ONE 2 MIL. COAT ALKYD CORROSION INHIBITING PRIMER AND TWO 1.5 MIL. COATS OF SEMI-GLOSS ACRYLIC LATEX ENAMEL. COLOR: DARK BROWN.
6. ANY PAINTED SURFACE DAMAGED DURING DELIVERY OR INSTALLATION SHALL BE SANDED SMOOTH, PRIMED AND REPAINTED WITH TWO COATS OF THE SPECIFIED ACRYLIC LATEX ENAMEL.
7. SEE STRUCTURE DRAWINGS FOR WALL/SLAB REINFORCEMENT/FOOTING AND METAL ROOF CONSTRUCTION.
8. CMU BLOCK COLOR TO BE NATURAL. PAINT INTERIOR BLOCK WALL WITH EPOXY PAINT TO MATCH COLOR.
9. MORTAR COLOR TO MATCH BLOCK COLOR.
10. PORTIONS OF METAL EMBEDDED IN MORTAR SHALL NOT BE PRIMED/PAINTED.

E5 TRASH ENCLOSURE

N.T.S.

BUREAU OF ENGINEERING
OFFICIAL RECORD

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L409-LXX_CONS_DETAILS.DWG
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/10/2021 4:21 PM

REVISION DATES (DESIGN STAGE ONLY)

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
ENGINEERING
BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	DATE: 04/21/2021
ARCHITECTURAL DIVISION		
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

JANE W. ADRIAN — LANDSCAPE ARCHITECT — LIC. NO. 3940 — 10-31-21 RENEWAL DATE — 04-05-21 DATE — STATE OF CALIFORNIA

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: CONSTRUCTION DETAILS SHEET 9

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L413
SHEET 43 OF SHEETS 74

PLOTTED: 8/24/2021 3:28 PM

IRRIGATION NOTES

HIGH STATIC PRESSURE - 147 PSI

LOW STATIC PRESSURE - 73 PSI

INFORMATION PROVIDED BY LADWP ON 07/16/2021

1. THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 50 P.S.I. AND A MAXIMUM FLOW DEMAND OF 46.4 G.P.M. THE CONTRACTOR SHALL VERIFY AVAILABLE WATER PRESSURE PRIOR TO CONSTRUCTION, AND REPORT ANY DIFFERENCE BETWEEN WATER PRESSURE AND AVAILABLE FLOW INDICATED ON THE DRAWINGS AND THE ACTUAL READING AT THE IRRIGATION POINT OF CONNECTION IMMEDIATELY TO THE PROJECT MANAGER.
2. BEFORE COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL OBTAIN AN UNDERGROUND SERVICE ALERT I.D. NUMBER BY CALLING 1-800-422-4133. PROVIDE TWO (2) WORKING DAYS AFTER THE NUMBER IS OBTAINED AND BEFORE THE EXCAVATION WORK IS STARTED SO THAT UTILITY OWNERS CAN BE NOTIFIED.
3. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF ANY UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY. THE CONTRACTOR SHALL PROMPTLY REPAIR OR REPLACE ANY EXISTING OR NEWLY CONSTRUCTED UTILITIES OR SITE FEATURES DAMAGED BY HIS WORK AT HIS OWN EXPENSE.
4. ANY EXISTING IRRIGATION SYSTEM COMPONENTS DEPICTED HEREIN ARE BASED UPON AS-BUILT RECORD DRAWINGS, AND ARE SHOWN HERE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SYSTEM COMPONENTS TO REMAIN PRIOR TO ENGAGING IN CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL IMMEDIATELY NOTIFY PROJECT MANAGER OF ANY DISCREPANCIES BETWEEN AS-BUILT AND EXISTING CONDITIONS.
5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT CONDITIONS OR OBSTRUCTIONS EXIST THAT WERE UNKNOWN AT THE TIME THESE PLANS WERE PREPARED. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER OF ANY SUCH CONDITIONS PRIOR TO PERFORMING ANY AFFECTED WORK. IN THE EVENT THAT THIS NOTIFICATION IS NOT GIVEN, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY MODIFICATIONS TO COMPLETED WORK.
6. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR CLARITY ONLY AND SHALL BE INSTALLED IN PLANTING AREAS. SET ALL VALVES AND QUICK COUPLERS ADJACENT TO WALKS OR PAVED SURFACES PER DETAILS. ALL IRRIGATION PRESSURE AND LATERAL LINES AND CONTROL WIRING THAT PASS UNDER PAVING SHALL BE SLEEVED PER LANDSCAPE CONSTRUCTION NOTES.
7. ANY TRENCHES DUG TO ACCOMMODATE NEW IRRIGATION LINES OR 2-WIRE CONDUIT THAT PASS INSIDE THE PROTECTED ROOT AREA OF AN EXISTING TREE ARE SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE LANDSCAPE CONSTRUCTION NOTES.
8. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS UNDER PAVING IN A TIMELY MANNER. SEE TRENCHING DETAIL FOR SLEEVING REQUIREMENTS.
9. 2-WIRE CABLE CONDUIT SHALL GENERALLY FOLLOW MAINLINE WHERE POSSIBLE. CONTRACTOR SHALL SUBMIT PROPOSED LOCATION OF 2-WIRE CONDUIT RUNS AND PULL BOXES FOR APPROVAL BY PROJECT ENGINEER PRIOR TO INSTALLATION.
10. THE CONTRACTOR SHALL FLUSH AND PRESSURE TEST ALL MAINLINES PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL FLUSH ALL LATERAL LINES AND IRRIGATION HEADS PER THE LANDSCAPE CONSTRUCTION NOTES.
11. THE INTENT OF THESE IRRIGATION PLANS IS TO PROVIDE 100% COVERAGE TO ALL PLANTING AREAS. AS PART OF THE SCOPE OF WORK, CONTRACTOR SHALL PROVIDE ANY ADDITIONAL HEADS, SPECIAL NOZZLES, OR PATTERNS TO ACHIEVE PROPER COVERAGE WITH A MINIMUM OF OVERSPRAY AT NO ADDITIONAL COST TO THE CITY.
12. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL CONDUCT A COVERAGE TEST PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL NOTIFY PROJECT MANAGER TO REQUEST THE TEST, WHICH WILL BE SCHEDULED AT THE SOONEST DATE POSSIBLE PER AVAILABILITY OF RAP AND LADWP STAFF.
13. REFER TO LANDSCAPE CONSTRUCTION NOTES FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.
14. VERIFY STATION NUMBERING WITH RAP IRRIGATION STAFF PRIOR TO PROGRAMMING.
15. PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

IRRIGATION VALVE LEGEND

A1 • Controller & Station No. (Verify with RAP Irrigation staff)
2" • Valve Size
XX.X • System GPM
PSI • Set PSI Reg.

Verify existing valve sizes in field.

Typical conventional spray system: symbol is body type, nozzle is noted for each head.

12H 12H 12Q

Typical turf rotor system (number is nozzle size):

8 3

2-WIRE EQUIPMENT LEGEND (CONTROLLER "A")

1 Rainmaster #TW-D-1 one valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

2 Rainmaster #TW-D-2 two valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

4 Rainmaster #TW-D-4 four valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

Rainmaster TW-LA-1 lightning arrestor and ground rod. Install every 600' per manufacturer's instructions and per detail E1/L606, typ.

Rainmaster TW-CAB-14 2-wire system cable. See details E1/L606, J1/L606, AND J9/L606. (Note: Additional wiring required per details and manufacturer's instructions (not shown on plan). Existing 2-wire path follows existing mainline.

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

IRRIGATION HEADS LEGEND

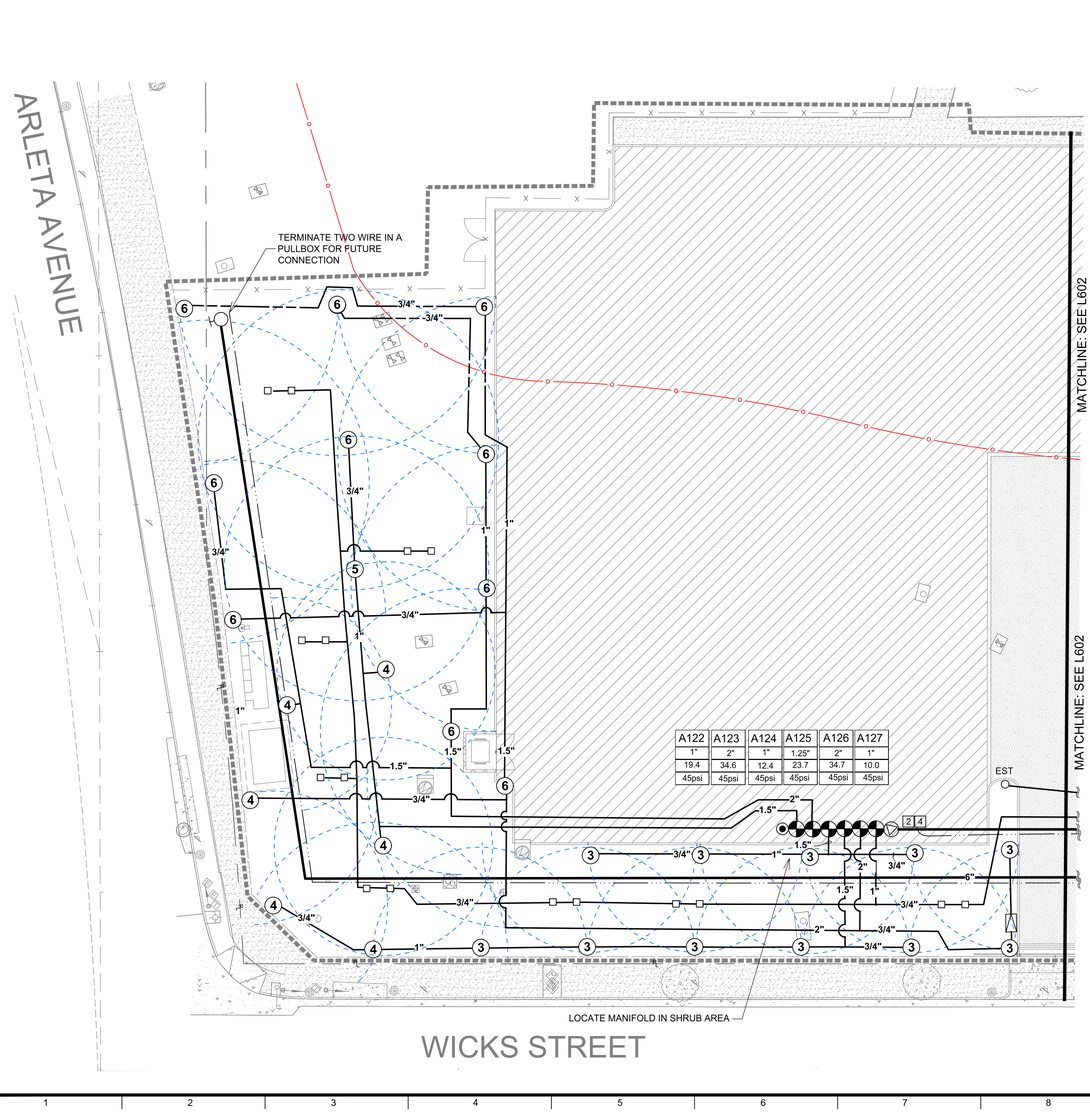
SYMBOL	DESCRIPTION	GPM	SPACING	NOZZLE PRESSURE	PRECIP. RATE	DETAIL NUMBER
12	**Toro T7PSS-02-12.0 NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	11.6	47'	55 psi	0.91 in/hr	E9/ L605
16	**Toro T7PSS-02-16.0 NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	15.1	51'	55 psi	1.00 in/hr	E9/ L605
24	**Toro T7PSS-02-24.0 NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	17.5	60'	55 psi	1.14 in/hr	E9/ L605
2L	**Toro T5PSS-RS-2LA NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	2.0	26'	45 psi	0.55 in/hr	E9/ L605
3L	**Toro T5PSS-RS-3LA NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	3.0	30'	45 psi	0.65 in/hr	E9/ L605
5	**Toro T5PSS-RS-5.0 NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.61 in/hr	E9/ L605
6	**Toro T5PSS-RS-6.0 NOZZLE** **Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
(2)	**Toro T5PHP-RS-2.0 NOZZLE** **Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	2.1	26'	45 psi	0.36 in/hr	E9/ L605
(3)	**Toro T5PHP-RS-3.0 NOZZLE** **Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	3.1	30'	45 psi	0.42 in/hr	E9/ L605
(4)	**Toro T5PHP-RS-4.0 NOZZLE** **Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	4.1	35'	45 psi	0.52 in/hr	E9/ L605
(5)	**Toro T5PHP-RS-5.0 NOZZLE** **Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.53 in/hr	E9/ L605
(6)	**Toro T5PHP-RS-6.0 NOZZLE** **Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
(8)	**Toro T5PHP-RS-8.0 NOZZLE** **Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	8.1	45'	45 psi	0.81 in/hr	E9/ L605
●	**TORO 570ZPRX 4" POP UP BODY** **with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	10-15'	30 psi	1.65 in/hr	E13/ L605
○	**TORO 570ZPRX 6" POP UP BODY** **with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	12-15'	30 psi	1.65 in/hr	E13/ L605
□	**Rainbird RWS-M-B-C-1402** **Root watering system assembly with pressure compensating bubbler.**	.50	––	30 psi	––	A5/ L605
△	**TORO 570ZPRX 6" POP UP BODY** **with 89-1731 (FB-100-PC) with pressure compensating Flood Bubbler.**	1.00	––	45 psi	––	E13/ L605

HDPE PIPING NOTES:

1. **ALL HDPE 4710 SDR 11 IPS LATERAL LINES AND FITTINGS SHALL BE BUTT WELDED EXCEPT WHERE NOTED BELOW.**
2. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM RCV TO HDPE PIPE, OR APPROVED EQUAL.**
3. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM HDPE PIPE TO SWING JOINTS, OR APPROVED EQUAL.**
4. **ALL OTHER IN-LINE FITTINGS SHALL BE HARCO SDR 11 IPS HEAT WELDED TYPE, OR APPROVED EQUAL.**
5. **ALL HEAT WELDED FITTINGS SHALL MATCH SDR RATING OF PIPE.**
6. **CONTRACTOR SHALL FOLLOW MFR'S INSTRUCTIONS FOR HEAT WELDING OF ALL FITTINGS. ALL HEAT WELDED FITTINGS MUST BE INSPECTED BY BCA INSPECTOR BEFORE COVERING PIPE.**

IRRIGATION EQUIPMENT LEGEND

SYMBOL	DESCRIPTION
W	EX Irrigation water meter
MV	EX Flowsensor/Master Valve to remain.
M	2" Domestic Water Meter. Coordinate installation/new service with LADWP and obtain plumbing permit.
A	Existing Controller A: Rainmaster TW-EGP (Not shown on plan - located at North Maintenance Building)
	Existing 6" Irrigation Reduced Pressure Type Backflow Device.
	1-1/2" Domestic Reduced Pressure Type Backflow Device installed with enclosure. See details A13/L060 and A9 L606.
	Remote Control Valve: TORO 220-27-7 brass valve with pressure regulator and 24Vac/60 Hz solenoid - see plan callout for valve size. Installer shall provide and install Rainmaster 2-wire decoders as indicated at each manifold, and program per manufacturer's instructions. Install per detail E1/L606.
	Quick Coupling Valve: RB 44LRC: 1" QC valve, locking rubber NP purple cover, acme key socket. Provide one quick coupler key and brass hose swivel for each five quick coupler valves installed, typ. Install per detail E1/L605.
	PVC Class 200 gasketed pipe with restrained fittings as required per detail. Size per plan.
	Existing CL 200 gasketed mainline pipe/2-wire path. Location shown on plan per As-Built drawings - Verify location in field.
	PVC sch. 40 Lateral Line piping; solvent weld. Size as noted.
	HDPE 4710 SDR 11 IPS butt welded Lateral Line piping. See HDPE NOTES this sheet.
D	Domestic Water Line. See Landscape Construction Notes. Size per plan.
	4" Mainline Isolation Valve: Nibco #P-619-RW IPS push-on type gate valve or approved equal. Install per detail A1/L605, typ.
	Existing isolation valve. Verify location in field, typ.
	Manifold gate valve. Install per details J1/L605 and J9/L605, typ.
	Domestic line gate valve. Install per detail A13/L605.
	Line size PVC swing-check valve. Install per manufacturer's instructions.
	Line size PVC spring type check valve. Install per manufacturer's instructions.
	Limit of Work
	Landfill Boundary - No mainlines/manifolds shall be placed to the north of or be within 15' of the landfill boundary line. All laterals within 15' of landfill boundary shall be HDPE.



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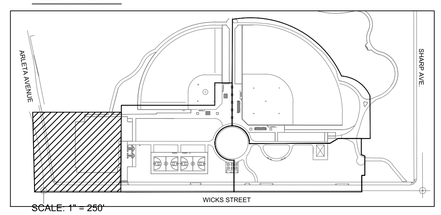
KEY MAP:



SCALE: 1" = 250'

DIGALERT
Call Toll Free 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert of Southern California

0 10' 20' 40'
SCALE: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CITY OF LOS ANGELES
ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
LANDSCAPE ARCHITECT: JANE ADRIAN LIC. NO.: 3940 DATE: 04/21/2021
DESIGNED BY: GREG MOESER 04/21/2021
DRAWN BY: GREG MOESER 04/21/2021
CHECKED BY: RICHARD FISHER 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT 08/05/2021

LANDSCAPE ARCHITECT JANE ADRIAN LIC. NO. 3940 10-31-21 Renewal Date 04-05-21 Date STATE OF CALIFORNIA

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: IRRIGATION PLAN SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L601
SHEET 44 OF SHEETS 74

PLOTTED: 8/25/2021 8:28 AM

REVISION DATES (DESIGN STAGE ONLY)

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FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L601 - L60X_IRRIGATION.DWG

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IRRIGATION NOTES

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LOW STATIC PRESSURE - 73 PSI

INFORMATION PROVIDED BY LADWP ON 07/16/2021

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6. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR CLARITY ONLY AND SHALL BE INSTALLED IN PLANTING AREAS. SET ALL VALVES AND QUICK COUPLERS ADJACENT TO WALKS OR PAVED SURFACES PER DETAILS. ALL IRRIGATION PRESSURE AND LATERAL LINES AND CONTROL WIRING THAT PASS UNDER PAVING SHALL BE SLEEVED PER LANDSCAPE CONSTRUCTION NOTES.
7. ANY TRENCHES DUG TO ACCOMMODATE NEW IRRIGATION LINES OR 2-WIRE CONDUIT THAT PASS INSIDE THE PROTECTED ROOT AREA OF AN EXISTING TREE ARE SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE LANDSCAPE CONSTRUCTION NOTES.
8. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS UNDER PAVING IN A TIMELY MANNER. SEE TRENCHING DETAIL FOR SLEEVING REQUIREMENTS.
9. 2-WIRE CABLE CONDUIT SHALL GENERALLY FOLLOW MAINLINE WHERE POSSIBLE. CONTRACTOR SHALL SUBMIT PROPOSED LOCATION OF 2-WIRE CONDUIT RUNS AND PULL BOXES FOR APPROVAL BY PROJECT ENGINEER PRIOR TO INSTALLATION.
10. THE CONTRACTOR SHALL FLUSH AND PRESSURE TEST ALL MAINLINES PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL FLUSH ALL LATERAL LINES AND IRRIGATION HEADS PER THE LANDSCAPE CONSTRUCTION NOTES.
11. THE INTENT OF THESE IRRIGATION PLANS IS TO PROVIDE 100% COVERAGE TO ALL PLANTING AREAS. AS PART OF THE SCOPE OF WORK, CONTRACTOR SHALL PROVIDE ANY ADDITIONAL HEADS, SPECIAL NOZZLES, OR PATTERNS TO ACHIEVE PROPER COVERAGE WITH A MINIMUM OF OVERSPRAY AT NO ADDITIONAL COST TO THE CITY.
12. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL CONDUCT A COVERAGE TEST PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL NOTIFY PROJECT MANAGER TO REQUEST THE TEST, WHICH WILL BE SCHEDULED AT THE SOONEST DATE POSSIBLE PER AVAILABILITY OF RAP AND LADWP STAFF.
13. REFER TO LANDSCAPE CONSTRUCTION NOTES FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.
14. VERIFY STATION NUMBERING WITH RAP IRRIGATION STAFF PRIOR TO PROGRAMMING.
15. PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EXISTING METHANE EXTRACTION SYSTEM, CONTACT CONSTRUCTION MANAGER AND LA SANITATION. REFER TO SHEETS L601 AND L604 FOR EMERGENCY CONTACT LIST.

IRRIGATION VALVE LEGEND

A1 • Controller & Station No. (Verify with RAP Irrigation staff)
2" • Valve Size
XX.X • System GPM
PSI • Set PSI Reg.

Verify existing valve sizes in field.

Typical conventional spray system: symbol is body type, nozzle is noted for each head.

12H 12H 12Q

Typical turf rotor system (number is nozzle size):

8 3

2-WIRE EQUIPMENT LEGEND (CONTROLLER "A")

1 Rainmaster #TW-D-1 one valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

2 Rainmaster #TW-D-2 two valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

4 Rainmaster #TW-D-4 four valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

Rainmaster TW-LA-1 lightning arrestor and ground rod. Install every 600' per manufacturer's instructions and per detail E1/L606, typ.

Rainmaster TW-CAB-14 2-wire system cable. See details E1/L606, J1/L606, AND J9/L606. (Note: Additional wiring required per details and manufacturer's instructions (not shown on plan). Existing 2-wire path follows existing mainline.

IRRIGATION HEADS LEGEND

SYMBOL	DESCRIPTION	GPM	SPACING	NOZZLE PRESSURE	PRECIP. RATE	DETAIL NUMBER
12	**Toro T7PSS-02-12.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	11.6	47'	55 psi	0.91 in/hr	E9/ L605
16	**Toro T7PSS-02-16.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	15.1	51'	55 psi	1.00 in/hr	E9/ L605
24	**Toro T7PSS-02-24.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	17.5	60'	55 psi	1.14 in/hr	E9/ L605
2L	**Toro T5PSS-RS-2LA NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	2.0	26'	45 psi	0.55 in/hr	E9/ L605
3L	**Toro T5PSS-RS-3LA NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	3.0	30'	45 psi	0.65 in/hr	E9/ L605
5	**Toro T5PSS-RS-5.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.61 in/hr	E9/ L605
6	**Toro T5PSS-RS-6.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
2	**Toro T5PHP-RS-2.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	2.1	26'	45 psi	0.36 in/hr	E9/ L605
3	**Toro T5PHP-RS-3.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	3.1	30'	45 psi	0.42 in/hr	E9/ L605
4	**Toro T5PHP-RS-4.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	4.1	35'	45 psi	0.52 in/hr	E9/ L605
5	**Toro T5PHP-RS-5.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.53 in/hr	E9/ L605
6	**Toro T5PHP-RS-6.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
8	**Toro T5PHP-RS-8.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	8.1	45'	45 psi	0.81 in/hr	E9/ L605
●	**TORO 570ZPRX 4" POP UP BODY with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	10-15'	30 psi	1.65 in/hr	E13/ L605
○	**TORO 570ZPRX 6" POP UP BODY with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	12-15'	30 psi	1.65 in/hr	E13/ L605
□	**Rainbird RWS-M-B-C-1402 Root watering system assembly with pressure compensating bubbler.**	.50	––	30 psi	––	A5/ L605
△	**TORO 570ZPRX 6" POP UP BODY with 89-1731 (FB-100-PC) with pressure compensating Flooding Bubbler.**	1.00	––	45 psi	––	E13/ L605

HDPE PIPING NOTES:

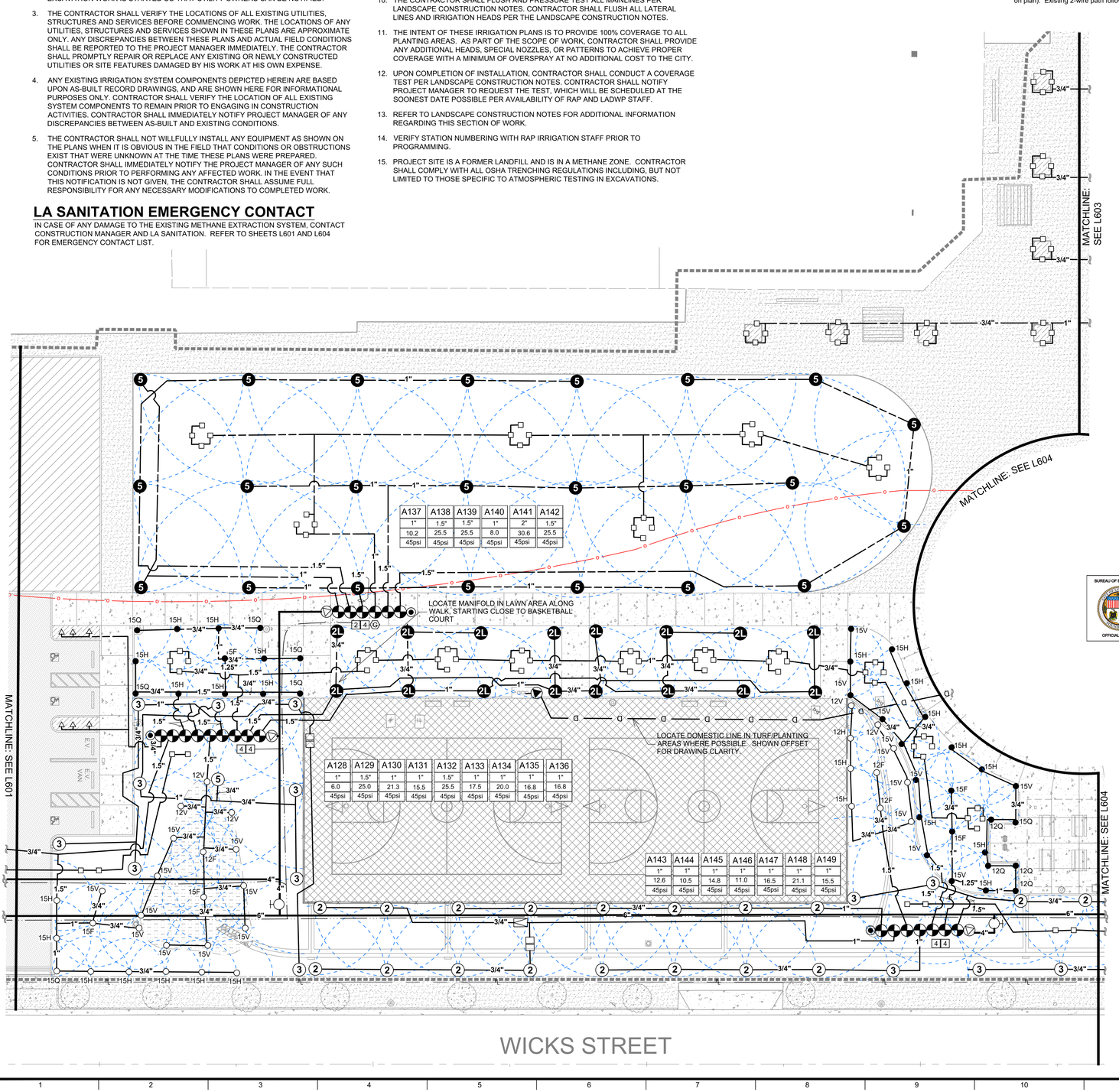
1. **ALL HDPE 4710 SDR 11 IPS LATERAL LINES AND FITTINGS SHALL BE BUTT WELDED EXCEPT WHERE NOTED BELOW.**
2. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM RCV TO HDPE PIPE, OR APPROVED EQUAL.**
3. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM HDPE PIPE TO SWING JOINTS, OR APPROVED EQUAL.**
4. **ALL OTHER IN-LINE FITTINGS SHALL BE HARCO SDR 11 IPS HEAT WELDED TYPE, OR APPROVED EQUAL.**
5. **ALL HEAT WELDED FITTINGS SHALL MATCH SDR RATING OF PIPE.**
6. **CONTRACTOR SHALL FOLLOW MFR'S INSTRUCTIONS FOR HEAT WELDING OF ALL FITTINGS. ALL HEAT WELDED FITTINGS MUST BE INSPECTED BY BCA INSPECTOR BEFORE COVERING PIPE.**

IRRIGATION EQUIPMENT LEGEND

SYMBOL	DESCRIPTION
W	EX Irrigation water meter
MV	EX Flowsensor/Master Valve to remain.
M	2" Domestic Water Meter. Coordinate installation/new service with LADWP and obtain plumbing permit.
A	Existing Controller A: Rainmaster TW-EGP (Not shown on plan - located at North Maintenance Building)
	Existing 6" Irrigation Reduced Pressure Type Backflow Device.
	1-1/2" Domestic Reduced Pressure Type Backflow Device installed with enclosure. See details A13/L060 and A9 L606.
	Remote Control Valve: TORO 220-27-7 brass valve with pressure regulator and 24Vac/60 Hz solenoid - see plan callout for valve size. Installer shall provide and install Rainmaster 2-wire decoders as indicated at each manifold, and program per manufacturer's instructions. Install per detail E1/L606.
	Quick Coupling Valve: RB 44LRC: 1" QC valve, locking rubber NP purple cover, acme key socket. Provide one quick coupler key and brass hose swivel for each five quick coupler valves installed, typ. Install per detail E1/L605.
	PVC Class 200 gasketed pipe with restrained fittings as required per detail. Size per plan.
	Existing CL 200 gasketed mainline pipe/2-wire path. Location shown on plan per As-Built drawings - Verify location in field.
	PVC sch. 40 Lateral Line piping; solvent weld. Size as noted.
	HDPE 4710 SDR 11 IPS butt welded Lateral Line piping. See HDPE NOTES this sheet.
D	Domestic Water Line. See Landscape Construction Notes. Size per plan.
	4" Mainline Isolation Valve: Nibco #P-619-RW IPS push-on type gate valve or approved equal. Install per detail A1/L605, typ.
	Existing isolation valve. Verify location in field, typ.
	Manifold gate valve. Install per details J1/L605 and J9/L605, typ.
	Domestic line gate valve. Install per detail A13/L605.
	Line size PVC swing-check valve. Install per manufacturer's instructions.
	Line size PVC spring type check valve. Install per manufacturer's instructions.

Limit of Work

Landfill Boundary - No mainlines/manifolds shall be placed to the north of or be within 15' of the landfill boundary line. All laterals within 15' of landfill boundary shall be HDPE.

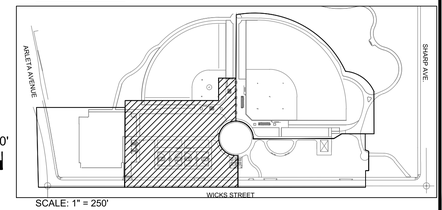


BUREAU OF ENGINEERING — OFFICIAL RECORD

DIG ALERT — Call Toll Free 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG. Underground Service Alert of Southern California

0 10' 20' 40'
SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

ENGINEERING — CITY OF LOS ANGELES

BUREAU OF ENGINEERING

REVISION DESCRIPTION | NO. | DATE | BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT, LANDSCAPE ARCHITECTURAL DIVISION: JANE ADRIAN (LIC. NO.: 3940) 04/21/2021
DESIGNED BY: GREG MOESER 04/21/2021
DRAWN BY: GREG MOESER 04/21/2021
CHECKED BY: RICHARD FISHER 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT 08/05/2021

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: IRRIGATION PLAN SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L602
SHEET 45 OF SHEETS 74

PLOTTED: 8/25/2021 8:28 AM

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/25/2021 8:27 AM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L602 - L60X_IRRIGATION.DWG

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES: (DESIGN STAGE ONLY)

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EXISTING METHANE EXTRACTION SYSTEM, CONTACT CONSTRUCTION MANAGER AND LA SANITATION. REFER TO SHEETS L601 AND L604 FOR EMERGENCY CONTACT LIST.

IRRIGATION EQUIPMENT LEGEND

SYMBOL	DESCRIPTION
W	EX Irrigation water meter
MV	EX Flowsensor/Master Valve to remain.
M	2" Domestic Water Meter. Coordinate installation/new service with LADWP and obtain plumbing permit.
A	Existing Controller A: Rainmaster TW-EGP (Not shown on plan - located at North Maintenance Building)
	Existing 6" Irrigation Reduced Pressure Type Backflow Device.
	1-1/2" Domestic Reduced Pressure Type Backflow Device installed with enclosure. See details A13/L060 and A9 L606.
	Remote Control Valve: TORO 220-27-7 brass valve with pressure regulator and 24Vac/60 Hz solenoid - see plan callout for valve size. Installer shall provide and install Rainmaster 2-wire decoders as indicated at each manifold, and program per manufacturer's instructions. Install per detail E1/L606.
	Quick Coupling Valve: RB 44LRC: 1" QC valve, locking rubber NP purple cover, acme key socket. Provide one quick coupler key and brass hose swivel for each five quick coupler valves installed, typ. Install per detail E1/L605.
	PVC Class 200 gasketed pipe with restrained fittings as required per detail. Size per plan.
	Existing CL 200 gasketed mainline pipe/2-wire path. Location shown on plan per As-Built drawings - Verify location in field.
	PVC sch. 40 Lateral Line piping; solvent weld. Size as noted.
	HDPE 4710 SDR 11 IPS butt welded Lateral Line piping. See HDPE NOTES this sheet.
D	Domestic Water Line. See Landscape Construction Notes. Size per plan.
	4" Mainline Isolation Valve: Nibco #P-619-RW IPS push-on type gate valve or approved equal. Install per detail A1/L605, typ.
	Existing isolation valve. Verify location in field, typ.
	Manifold gate valve. Install per details J1/L605 and J9/L605, typ.
	Domestic line gate valve. Install per detail A13/L605.
	Line size PVC swing-check valve. Install per manufacturer's instructions.
	Line size PVC spring type check valve. Install per manufacturer's instructions.

IRRIGATION VALVE LEGEND

A1 — Controller & Station No. (Verify with RAP Irrigation staff)
2" — Valve Size
XX.X — System GPM
PSI — Set PSI Reg.

Verify existing valve sizes in field.

Typical conventional spray system: symbol is body type, nozzle is noted for each head.

12H 12H 12Q

Typical turf rotor system (number is nozzle size):

8 3

IRRIGATION HEADS LEGEND

SYMBOL	DESCRIPTION	GPM	SPACING	NOZZLE PRESSURE	PRECIP RATE	DETAIL NUMBER
12	**Toro T7PSS-02-12.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	11.6	47'	55 psi	0.91 in/hr	E9/ L605
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2L	**Toro T5PSS-RS-2LA NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	2.0	26'	45 psi	0.55 in/hr	E9/ L605
3L	**Toro T5PSS-RS-3LA NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	3.0	30'	45 psi	0.65 in/hr	E9/ L605
5	**Toro T5PSS-RS-5.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.61 in/hr	E9/ L605
6	**Toro T5PSS-RS-6.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
2	**Toro T5PHP-RS-2.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	2.1	26'	45 psi	0.36 in/hr	E9/ L605
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8	**Toro T5PHP-RS-8.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	8.1	45'	45 psi	0.81 in/hr	E9/ L605
●	**TORO 570ZPRX 4" POP UP BODY with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	10-15'	30 psi	1.65 in/hr	E13/ L605
○	**TORO 570ZPRX 6" POP UP BODY with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	12-15'	30 psi	1.65 in/hr	E13/ L605
□	**Rainbird RWS-M-B-C-1402 Root watering system assembly with pressure compensating bubbler.**	.50	––	30 psi	––	A5/ L605
△	**TORO 570ZPRX 6" POP UP BODY with 89-1731 (FB-100-PC) with pressure compensating Flood Bubbler.**	1.00	––	45 psi	––	E13/ L605

HDPE PIPING NOTES:

1. **ALL HDPE 4710 SDR 11 IPS LATERAL LINES AND FITTINGS SHALL BE BUTT WELDED EXCEPT WHERE NOTED BELOW.**
2. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM RCV TO HDPE PIPE, OR APPROVED EQUAL.**
3. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM HDPE PIPE TO SWING JOINTS, OR APPROVED EQUAL.**
4. **ALL OTHER IN-LINE FITTINGS SHALL BE HARCO SDR 11 IPS HEAT WELDED TYPE, OR APPROVED EQUAL.**
5. **ALL HEAT WELDED FITTINGS SHALL MATCH SDR RATING OF PIPE.**
6. **CONTRACTOR SHALL FOLLOW MFR'S INSTRUCTIONS FOR HEAT WELDING OF ALL FITTINGS. ALL HEAT WELDED FITTINGS MUST BE INSPECTED BY BCA INSPECTOR BEFORE COVERING PIPE.**

Limit of Work

Landfill Boundary - No mainlines/manifolds shall be placed to the north of or be within 15' of the landfill boundary line. All laterals within 15' of landfill boundary shall be HDPE.

BUREAU OF ENGINEERING OFFICIAL RECORD

2-WIRE EQUIPMENT LEGEND (CONTROLLER "A")

1 Rainmaster #TW-D-1 one valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

2 Rainmaster #TW-D-2 two valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

4 Rainmaster #TW-D-4 four valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

Rainmaster TW-LA-1 lightning arrestor and ground rod. Install every 600' per manufacturer's instructions and per detail E1/L606, typ.

Rainmaster TW-CAB-14 2-wire system cable. See details E1/L606, J1/L606, AND J9/L606. (Note: Additional wiring required per details and manufacturer's instructions (not shown on plan). Existing 2-wire path follows existing mainline.

SEE SHEETS L601, L602, AND L604 FOR IRRIGATION NOTES.

DIG ALERT — Call Toll Free 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG. Underground Service Alert of Southern California

0 10' 20' 40'

SCALE: 1" = 20'

KEY MAP:

A166	A167	A168	A169	A170	A171	A172
1"	2"	2"	1"	1.5"	2"	1"
22.0	35.0	35.0	18.0	24.0	35.0	17.5
45psi	65psi	65psi	45psi	45psi	65psi	65psi

A173	A174	A175	A176	A177	A178
1"	2"	2"	1.5"	2"	2"
16.0	35.0	46.4	30.0	46.4	38.0
45psi	65psi	65psi	45psi	65psi	45psi

A179	A180	A181	A182	A183	A184	A185	A186	A187	A188
2"	2"	2"	2"	2"	2"	2"	2"	2"	1"
46.4	46.4	38.4	46.4	60.4	60.4	46.4	58.0	35.3	4.3
65psi	65psi	65psi	65psi	65psi	65psi	65psi	65psi	45psi	45psi

MATCHLINE: SEE L602

MATCHLINE: SEE L602

MATCHLINE: SEE L601

MATCHLINE: SEE L604

VERIFY FUNCTION/COVERAGE OF EXISTING HEADS IN TURF AREA BETWEEN DG PATH AND NEW FIELD

LOCATE MANIFOLDS/ MAINLINE IN LAWN AREA ALONG WALK HERE

FB50

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/25/2021 8:27 AM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP IX COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L601 - L60X_IRRIGATION.DWG

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
REVISION DESCRIPTION | DATE | BY
NO.

RAP FACILITY NO. 837

INDEX NO. RP-300119

ENGINEERING — CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION

		DATE:
LANDSCAPE ARCHITECT:	JANE ADRIAN	04/21/2021
DESIGNED BY:	GREG MOESER	04/21/2021
DRAWN BY:	GREG MOESER	04/21/2021
CHECKED BY:	RICHARD FISHER	04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021

LIC. NO.: 3940

LANDSCAPE ARCHITECT — JANE M. ADRIAN — LICENSED — No. 5190 — 10-31-21 Renewal Date — 04-05-21 Date — STATE OF CALIFORNIA

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: IRRIGATION PLAN SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L603

SHEET 46 OF SHEETS 74

PLOTTED: 8/25/2021 8:29 AM

IRRIGATION NOTES

HIGH STATIC PRESSURE - 147 PSI

LOW STATIC PRESSURE - 73 PSI

INFORMATION PROVIDED BY LADWP ON 07/16/2021

1. THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 50 P.S.I. AND A MAXIMUM FLOW DEMAND OF 46.4 G.P.M. THE CONTRACTOR SHALL VERIFY AVAILABLE WATER PRESSURE PRIOR TO CONSTRUCTION, AND REPORT ANY DIFFERENCE BETWEEN WATER PRESSURE AND AVAILABLE FLOW INDICATED ON THE DRAWINGS AND THE ACTUAL READING AT THE IRRIGATION POINT OF CONNECTION IMMEDIATELY TO THE PROJECT MANAGER.
2. BEFORE COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL OBTAIN AN UNDERGROUND SERVICE ALERT I.D. NUMBER BY CALLING 1-800-422-4133. PROVIDE TWO (2) WORKING DAYS AFTER THE NUMBER IS OBTAINED AND BEFORE THE EXCAVATION WORK IS STARTED SO THAT UTILITY OWNERS CAN BE NOTIFIED.
3. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF ANY UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY. THE CONTRACTOR SHALL PROMPTLY REPAIR OR REPLACE ANY EXISTING OR NEWLY CONSTRUCTED UTILITIES OR SITE FEATURES DAMAGED BY HIS WORK AT HIS OWN EXPENSE.
4. ANY EXISTING IRRIGATION SYSTEM COMPONENTS DEPICTED HEREIN ARE BASED UPON AS-BUILT RECORD DRAWINGS, AND ARE SHOWN HERE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SYSTEM COMPONENTS TO REMAIN PRIOR TO ENGAGING IN CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL IMMEDIATELY NOTIFY PROJECT MANAGER OF ANY DISCREPANCIES BETWEEN AS-BUILT AND EXISTING CONDITIONS.
5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT CONDITIONS OR OBSTRUCTIONS EXIST THAT WERE UNKNOWN AT THE TIME THESE PLANS WERE PREPARED. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER OF ANY SUCH CONDITIONS PRIOR TO PERFORMING ANY AFFECTED WORK. IN THE EVENT THAT THIS NOTIFICATION IS NOT GIVEN, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY MODIFICATIONS TO COMPLETED WORK.
6. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR CLARITY ONLY AND SHALL BE INSTALLED IN PLANTING AREAS. SET ALL VALVES AND QUICK COUPLERS ADJACENT TO WALKS OR PAVED SURFACES PER DETAILS. ALL IRRIGATION PRESSURE AND LATERAL LINES AND CONTROL WIRING THAT PASS UNDER PAVING SHALL BE SLEEVED PER LANDSCAPE CONSTRUCTION NOTES.
7. ANY TRENCHES DUG TO ACCOMMODATE NEW IRRIGATION LINES OR 2-WIRE CONDUIT THAT PASS INSIDE THE PROTECTED ROOT AREA OF AN EXISTING TREE ARE SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE LANDSCAPE CONSTRUCTION NOTES.
8. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS UNDER PAVING IN A TIMELY MANNER. SEE TRENCHING DETAIL FOR SLEEVING REQUIREMENTS.
9. 2-WIRE CABLE CONDUIT SHALL GENERALLY FOLLOW MAINLINE WHERE POSSIBLE. CONTRACTOR SHALL SUBMIT PROPOSED LOCATION OF 2-WIRE CONDUIT RUNS AND PULL BOXES FOR APPROVAL BY PROJECT ENGINEER PRIOR TO INSTALLATION.
10. THE CONTRACTOR SHALL FLUSH AND PRESSURE TEST ALL MAINLINES PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL FLUSH ALL LATERAL LINES AND IRRIGATION HEADS PER THE LANDSCAPE CONSTRUCTION NOTES.
11. THE INTENT OF THESE IRRIGATION PLANS IS TO PROVIDE 100% COVERAGE TO ALL PLANTING AREAS. AS PART OF THE SCOPE OF WORK, CONTRACTOR SHALL PROVIDE ANY ADDITIONAL HEADS, SPECIAL NOZZLES, OR PATTERNS TO ACHIEVE PROPER COVERAGE WITH A MINIMUM OF OVERSPRAY AT NO ADDITIONAL COST TO THE CITY.
12. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL CONDUCT A COVERAGE TEST PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL NOTIFY PROJECT MANAGER TO REQUEST THE TEST, WHICH WILL BE SCHEDULED AT THE SOONEST DATE POSSIBLE PER AVAILABILITY OF RAP AND LADWP STAFF.
13. REFER TO LANDSCAPE CONSTRUCTION NOTES FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.
14. VERIFY STATION NUMBERING WITH RAP IRRIGATION STAFF PRIOR TO PROGRAMMING.
15. PROJECT SITE IS A FORMER LANDFILL AND IS IN A METHANE ZONE. CONTRACTOR SHALL COMPLY WITH ALL OSHA TRENCHING REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE SPECIFIC TO ATMOSPHERIC TESTING IN EXCAVATIONS.

LA SANITATION EMERGENCY CONTACT

IN CASE OF ANY DAMAGE TO THE EX. METHANE EXTRACTION SYSTEM, CALL PROJECT CONSTRUCTION MANAGER, AND LA SANITATION IN THE FOLLOWING ORDER:

NAME & TITLE	OFFICE	CELL
JAMES GREENFIELD (CONSTRUCTION & MAINT. SUPERINTENDANT)	818.485.0710	213.804.7919
MIKE KAUFMAN (EQUIPMENT SUPERVISOR)	818.485.0711	213.271.0978
ARPA BAHARIANCE (SENIOR ENVIRONMENTAL INSPECTOR)	818.485.0720	818.554.6857
MIGUEL ZERMENO (SANITATION SOLID RESOURCES MGR I)	213.485.3611	213.924.6858
KHALIL GHARIOS (SANITATION SOLID RESOURCES MGR II)	213.485.3002	213.925.9902

IRRIGATION EQUIPMENT LEGEND

SYMBOL	DESCRIPTION
W	EX Irrigation water meter
MV	EX Flowsensor/Master Valve to remain.
M	2" Domestic Water Meter. Coordinate installation/new service with LADWP and obtain plumbing permit.
A	Existing Controller A: Rainmaster TW-EGP (Not shown on plan - located at North Maintenance Building)
	Existing 6" Irrigation Reduced Pressure Type Backflow Device.
	1-1/2" Domestic Reduced Pressure Type Backflow Device installed with enclosure. See details A13/L060 and A9 L606.
	Remote Control Valve: TORO 220-27-7 brass valve with pressure regulator and 24Vac/60 Hz solenoid - see plan callout for valve size. Installer shall provide and install Rainmaster 2-wire decoders as indicated at each manifold, and program per manufacturer's instructions. Install per detail E1/L606.
	Quick Coupling Valve: RB 44LRC: 1" QC valve, locking rubber NP purple cover, acme key socket. Provide one quick coupler key and brass hose swivel for each five quick coupler valves installed, typ. Install per detail E1/L605.
	PVC Class 200 gasketed pipe with restrained fittings as required per detail. Size per plan.
	Existing CL 200 gasketed mainline pipe/2-wire path. Location shown on plan per As-Built drawings - Verify location in field.
	PVC sch. 40 Lateral Line piping; solvent weld. Size as noted.
	HDPE 4710 SDR 11 IPS butt welded Lateral Line piping. See HDPE NOTES this sheet.
D	Domestic Water Line. See Landscape Construction Notes. Size per plan.
	4" Mainline Isolation Valve: Nibco #P-619-RW IPS push-on type gate valve or approved equal. Install per detail A1/L605, typ.
	Existing isolation valve. Verify location in field, typ.
	Manifold gate valve. Install per details J1/L605 and J9/L605, typ.
	Domestic line gate valve. Install per detail A13/L605.
	Line size PVC swing-check valve. Install per manufacturer's instructions.
	Line size PVC spring type check valve. Install per manufacturer's instructions.

Limit of Work

Landfill Boundary - No mainlines/manifolds shall be placed to the north of or be within 15' of the landfill boundary line. All laterals within 15' of landfill boundary shall be HDPE.

IRRIGATION VALVE LEGEND

A1 — Controller & Station No. (Verify with RAP Irrigation staff)
2" — Valve Size
XX.X — System GPM
PSI — Set PSI Reg.

Verify existing valve sizes in field.

Typical conventional spray system: symbol is body type, nozzle is noted for each head.

12H 12H 12Q

Typical turf rotor system (number is nozzle size):

8 3

2-WIRE EQUIPMENT LEGEND (CONTROLLER "A")

1 Rainmaster #TW-D-1 one valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

2 Rainmaster #TW-D-2 two valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

4 Rainmaster #TW-D-4 four valve decoder. Install per manufacturer's Instructions, E1/L606 and J1/L606.

G Rainmaster TW-LA-1 lightning arrestor and ground rod. Install every 600' per manufacturer's instructions and per detail E1/L606, typ.

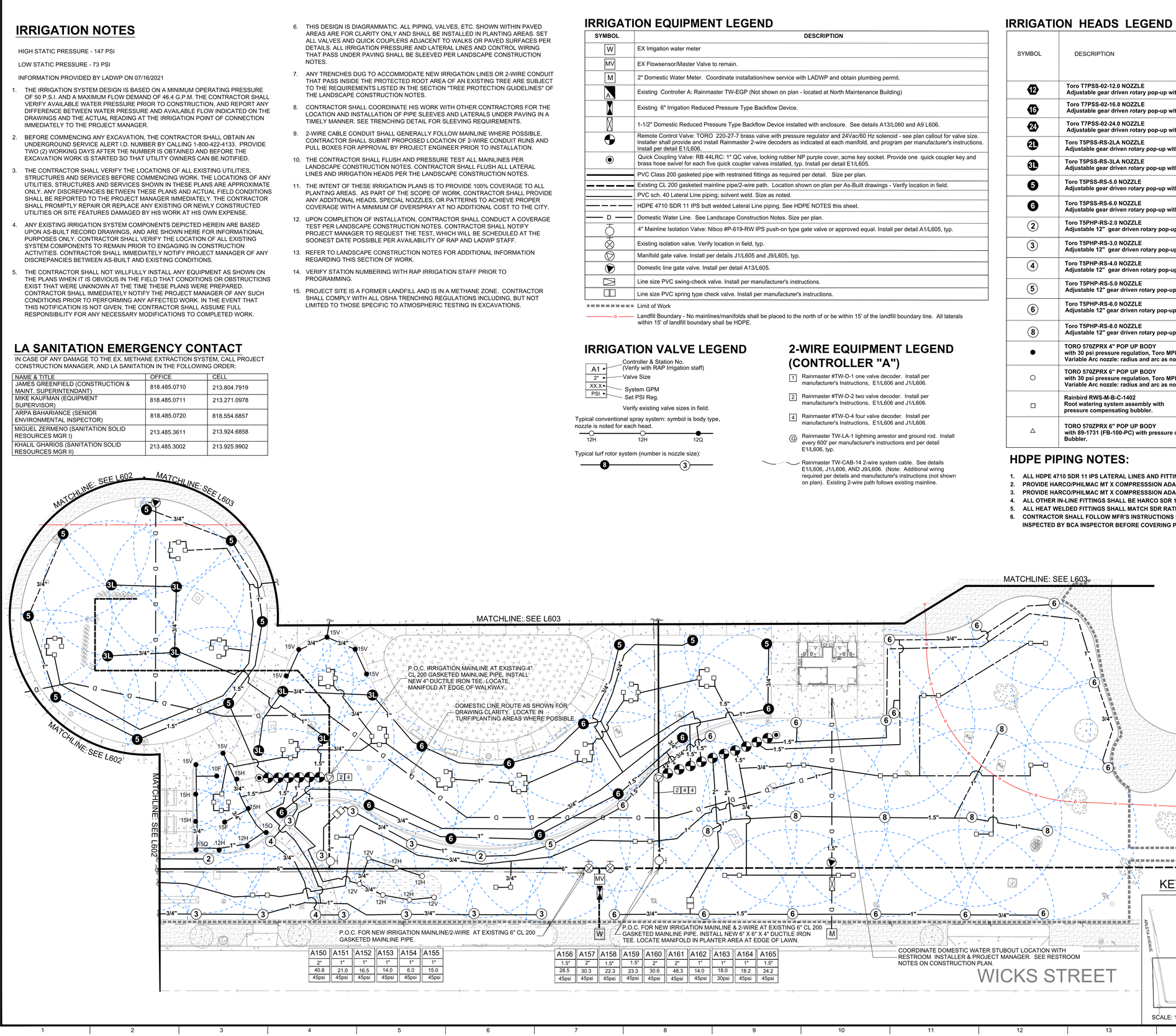
Rainmaster TW-CAB-14 2-wire system cable. See details E1/L606, J1/L606, AND J9/L606. (Note: Additional wiring required per details and manufacturer's instructions (not shown on plan). Existing 2-wire path follows existing mainline.

IRRIGATION HEADS LEGEND

SYMBOL	DESCRIPTION	GPM	SPACING	NOZZLE PRESSURE	PRECIP. RATE	DETAIL NUMBER
12	**Toro T7PSS-02-12.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	11.6	47'	55 psi	0.91 in/hr	E9/ L605
16	**Toro T7PSS-02-16.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	15.1	51'	55 psi	1.00 in/hr	E9/ L605
24	**Toro T7PSS-02-24.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	17.5	60'	55 psi	1.14 in/hr	E9/ L605
2L	**Toro T5PSS-RS-2LA NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	2.0	26'	45 psi	0.55 in/hr	E9/ L605
3L	**Toro T5PSS-RS-3LA NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	3.0	30'	45 psi	0.65 in/hr	E9/ L605
5	**Toro T5PSS-RS-5.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.61 in/hr	E9/ L605
6	**Toro T5PSS-RS-6.0 NOZZLE Adjustable gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
2	**Toro T5PHP-RS-2.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	2.1	26'	45 psi	0.36 in/hr	E9/ L605
3	**Toro T5PHP-RS-3.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	3.1	30'	45 psi	0.42 in/hr	E9/ L605
4	**Toro T5PHP-RS-4.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	4.1	35'	45 psi	0.52 in/hr	E9/ L605
5	**Toro T5PHP-RS-5.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	5.1	37'	45 psi	0.53 in/hr	E9/ L605
6	**Toro T5PHP-RS-6.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	6.1	40'	45 psi	0.64 in/hr	E9/ L605
8	**Toro T5PHP-RS-8.0 NOZZLE Adjustable 12" gear driven rotary pop-up with nozzle as noted, typ.**	8.1	45'	45 psi	0.81 in/hr	E9/ L605
●	**TORO 570ZPRX 4" POP UP BODY with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	10-15'	30 psi	1.65 in/hr	E13/ L605
○	**TORO 570ZPRX 6" POP UP BODY with 30 psi pressure regulation, Toro MPR PLUS Series or Variable Arc nozzle: radius and arc as noted for each head.**	(var.)	12-15'	30 psi	1.65 in/hr	E13/ L605
□	**Rainbird RWS-M-B-C-1402 Root watering system assembly with pressure compensating bubbler.**	.50	––	30 psi	––	A5/ L605
△	**TORO 570ZPRX 6" POP UP BODY with 89-1731 (FB-100-PC) with pressure compensating Flood Bubbler.**	1.00	––	45 psi	––	E13/ L605

HDPE PIPING NOTES:

1. **ALL HDPE 4710 SDR 11 IPS LATERAL LINES AND FITTINGS SHALL BE BUTT WELDED EXCEPT WHERE NOTED BELOW.**
2. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM RCV TO HDPE PIPE, OR APPROVED EQUAL.**
3. **PROVIDE HARCO/PHILMAC MT X COMPRESSSION ADAPTORS FROM HDPE PIPE TO SWING JOINTS, OR APPROVED EQUAL.**
4. **ALL OTHER IN-LINE FITTINGS SHALL BE HARCO SDR 11 IPS HEAT WELDED TYPE, OR APPROVED EQUAL.**
5. **ALL HEAT WELDED FITTINGS SHALL MATCH SDR RATING OF PIPE.**
6. **CONTRACTOR SHALL FOLLOW MFR'S INSTRUCTIONS FOR HEAT WELDING OF ALL FITTINGS. ALL HEAT WELDED FITTINGS MUST BE INSPECTED BY BCA INSPECTOR BEFORE COVERING PIPE.**



A150	A151	A152	A153	A154	A155
2"	1"	1"	1"	1"	1"
40.8	21.0	16.5	14.0	6.0	15.0
45psi	45psi	45psi	45psi	45psi	45psi

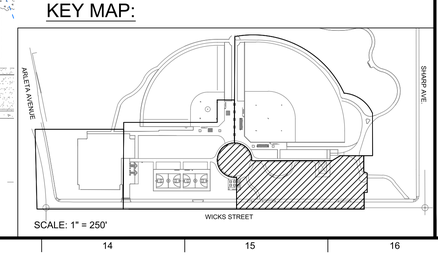
A156	A157	A158	A159	A160	A161	A162	A163	A164	A165
1.5"	2"	1.5"	1.5"	2"	2"	1"	1"	1"	1.5"
28.5	30.3	22.3	23.3	30.6	48.3	14.0	18.0	18.2	24.2
45psi	45psi	45psi	45psi	45psi	45psi	45psi	30psi	45psi	45psi

BUREAU OF ENGINEERING OFFICIAL RECORD

DIG ALERT — Call Toll Free 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG. Underground Service Alert of Southern California

0 10' 20' 40'
SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION
LIC. NO.: 3940

		DATE:
LANDSCAPE ARCHITECT:	JANE ADRIAN	04/21/2021
DESIGNED BY:	GREG MOESER	04/21/2021
DRAWN BY:	GREG MOESER	04/21/2021
CHECKED BY:	RICHARD FISHER	04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021

BUREAU OF ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: IRRIGATION PLAN SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

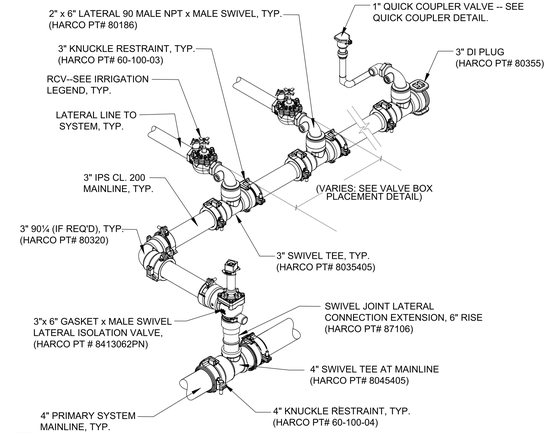
WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L604
SHEET 47 OF SHEETS 74

PLOTTED: 8/25/2021 8:30 AM

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/25/2021 8:27 AM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP IX COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L601 - L60X_IRRIGATION.DWG

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

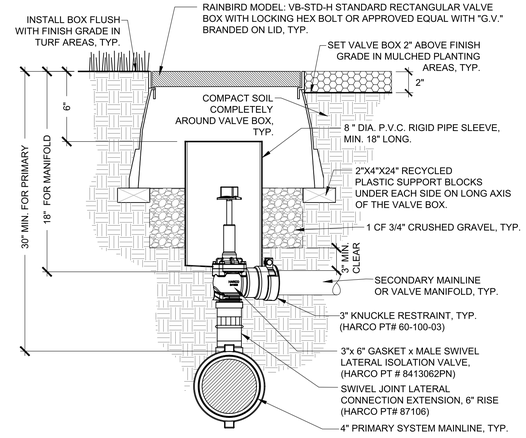
REVISION DATES (DESIGN STAGE ONLY)



NOTES:
1.) ALL FITTINGS AND RESTRAINTS ARE AS AS MANUFACTURED BY HARCO FITTINGS (www.harcofittings.com) OR APPROVED EQUAL. INSTALL ALL FITTINGS AND RESTRAINTS PER MANUFACTURER'S INSTRUCTIONS.
2.) SEE VALVE BOX PLACEMENT, RCV INSTALLATION, AND QUICK COUPLER INSTALLATION DETAILS FOR ADDITIONAL INFORMATION.

J1 VALVE MANIFOLD ASSEMBLY

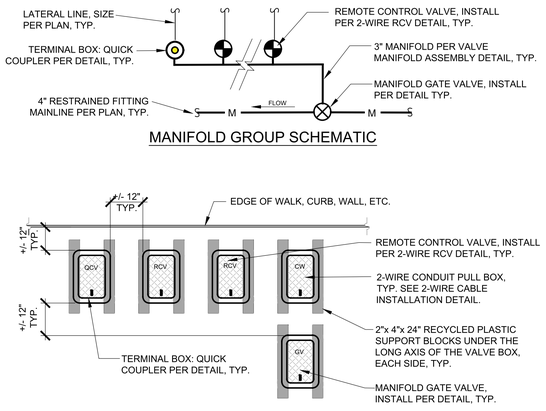
N.T.S. | BOE VERSION 02/16/18 RWF | RP DETAIL 135



SECTION

J5 MANIFOLD GATE VALVE, 3" and Larger Mainline

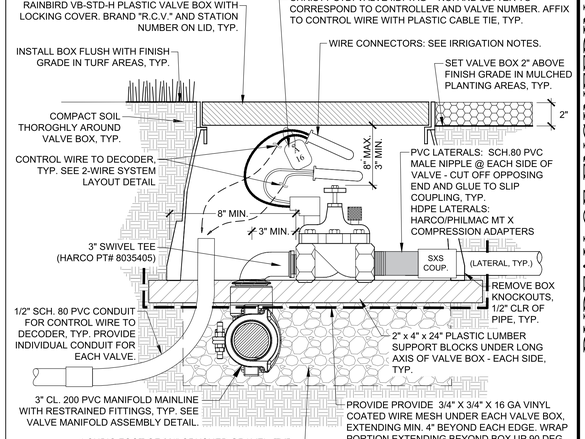
N.T.S. | BOE VERSION 02/14/18 - RF | RP DETAIL L1102



NOTES:
1. ALL VALVES SHALL BE INSTALLED IN A MANIFOLD GROUP SIMILAR TO THAT SHOWN IN ABOVE SCHEMATIC. SEE PLANS FOR NUMBER OF RCV/QCV FOR EACH MANIFOLD, TYP.
2. ALL BOXES SHALL BE SQUARE TO ONE ANOTHER AND TO THE EDGES OF ADJACENT FIXED OBJECTS WHERE PRESENT.

J9 VALVE BOX PLACEMENT

N.T.S. | | RP DETAIL 1410

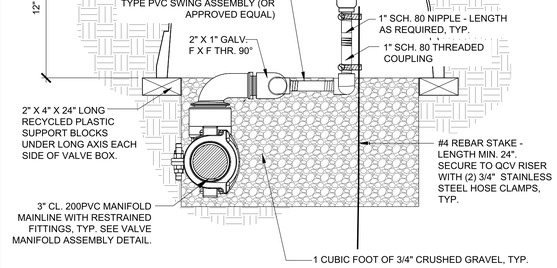


NOTES:
1. SEE APPLICABLE DETAILS FOR 2-WIRE DECODER AND CABLE INSTALLATION

1/14/20 RWF

J13 RCV INSTALLATION DETAIL, 2-WIRE SYSTEM

N.T.S. | | RP DETAIL 1402

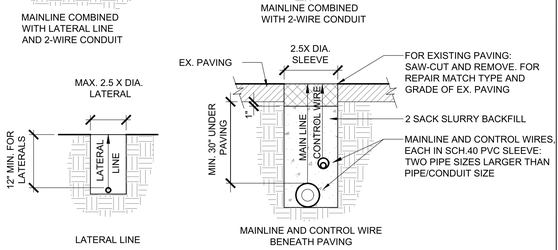


NOTES:
1) SEE RELATED DETAIL FOR MANIFOLD PIPE & FITTINGS.

VERSION 05/16/17 RWF/gm

E1 QUICK COUPLING VALVE INSTALLATION DETAIL

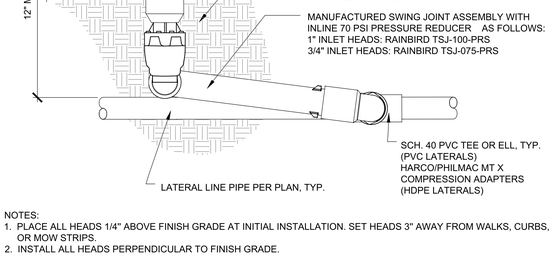
N.T.S. | | RP DETAIL L1201



NOTE:
1. PIPE AND CONTROL WIRE CROSSING UNDER PAVING OR WALKWAY OVER 8' WIDE SHALL BE SLEEVED AS INDICATED ABOVE.
2. PIPE BEDDING AND BACKFILL SHALL BE PER APPROVED SOILS REPORT AND LANDSCAPE CONSTRUCTION NOTES, PIPELINE INSTALLATION GENERAL.

E5 IRRIGATION TRENCHING DETAIL - 2 WIRE

N.T.S. | BOE VERSION 02/08/18 | RP DETAIL 1350

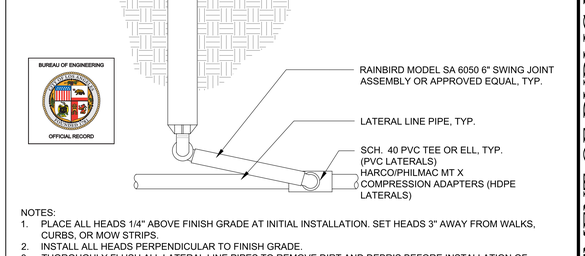


NOTES:
1. PLACE ALL HEADS 1/4" ABOVE FINISH GRADE AT INITIAL INSTALLATION. SET HEADS 3" AWAY FROM WALKS, CURBS, OR MOW STRIPS.
2. INSTALL ALL HEADS PERPENDICULAR TO FINISH GRADE.
3. THOROUGHLY FLUSH ALL LATERAL LINE PIPES TO REMOVE DIRT AND DEBRIS BEFORE INSTALLATION OF NOZZLES.
4. ADJUST ALL HEADS TO PROPER ARC AND RADIUS AS NECESSARY TO ACHIEVE PROPER COVERAGE AND UNIFORMITY. IF PROPER COVERAGE AND UNIFORMITY IS NOT ACHIEVED WITH THE SPECIFIED NOZZLE, CONTRACTOR SHALL CHANGE NOZZLE AS NEEDED IN CONSULTATION WITH LANDSCAPE ARCHITECT UNTIL DESIRED PERFORMANCE IS ACHIEVED.

REVISED: 6/14/06 RWF/SLG

E9 GEAR-DRIVEN ROTOR HEAD INSTALLATION

N.T.S. | | RP DETAIL 162



NOTES:
1. PLACE ALL HEADS 1/4" ABOVE FINISH GRADE AT INITIAL INSTALLATION. SET HEADS 3" AWAY FROM WALKS, CURBS, OR MOW STRIPS.
2. INSTALL ALL HEADS PERPENDICULAR TO FINISH GRADE.
3. THOROUGHLY FLUSH ALL LATERAL LINE PIPES TO REMOVE DIRT AND DEBRIS BEFORE INSTALLATION OF NOZZLES.
4. ADJUST ALL HEADS TO PROPER ARC AND RADIUS AS NECESSARY TO ACHIEVE PROPER COVERAGE AND UNIFORMITY. IF PROPER COVERAGE AND UNIFORMITY IS NOT ACHIEVED WITH THE SPECIFIED NOZZLE, CONTRACTOR SHALL CHANGE NOZZLE AS NEEDED UNTIL DESIRED PERFORMANCE IS ACHIEVED.

REVISED: 6/14/06 RWF/SLG

E13 POP-UP SPRAY HEAD INSTALLATION

N.T.S. | | RP DETAIL 162

SECTION

A1 4" MAINLINE ISOLATION VALVE

N.T.S. | BOE VERSION May/17 - RF/gm | RP DETAIL L1101

NOTE: ALWAYS LOCATE RWS CANISTERS WITHIN 12" OR LESS FROM EDGE OF TREE ROOTBALL.

A5 ROOT WATERING SYSTEM BUBBLER ASSEMBLY

N.T.S. | BOE VERSION Sep/07 - RF | RAP DETAIL L1660

1. PLASTIC PIPE SHALL BE INSTALLED PER IRRIGATION INSTALLATION NOTES AND TRENCHING DETAIL.
2. THE PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN. 470-B-2000 CONC.
3. ALL ANCHOR RODS SHALL BE GALVANIZED STEEL MIN. 1/2" INCH IN DIAMETER.
4. SIZE OF THRUST BLK.: 4" PIPE = 4 CU. FT. CONC., 6" PIPE = 6 CU. FT., 8" PIPE = 8 CU. FT.
5. WRAP ALL FITTINGS WITH SIX MIL PLASTIC BEFORE POURING THRUST BLOCKS.
6. POOR SOIL CONDITIONS : USE THRUST BLOCKS FOR 3" PIPE AT SIZE SHOWN FOR 4" PIPE.
7. ALL THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.

RAP VERSION 3/1/92 RCM, JPH

A9 THRUST BLOCK INSTALLATION

N.T.S. | BOE VERSION Sep/07 | RP DETAIL L1340

SECTION

8/9/18 GM

A13 GATE VALVE INSTALLATION, 3/4" TO 2" DOMESTIC

N.T.S. | | RP DETAIL 1100

BUREAU OF ENGINEERING — OFFICIAL RECORD

CITY OF LOS ANGELES — DEPARTMENT OF PUBLIC WORKS — BUREAU OF ENGINEERING

ENGINEERING — CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — JANE MOESER — No. 3940 — My License Renewal 10-31-21 — Date 04-05-21

DATE:	04/21/2021	04/21/2021	04/21/2021	04/21/2021	08/05/2021
LIC. NO.: 3940					
ARCHITECTURAL DIVISION					
DESIGNED BY:	GREG MOESER				
DRAWN BY:	GREG MOESER				
CHECKED BY:	RICHARD FISHER				
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT				

CITY OF LOS ANGELES — DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

Project Status: BID SET
PROJECT ISSUE DATE: 06/05/2021

SHEET TITLE: IRRIGATION DETAILS SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. L605

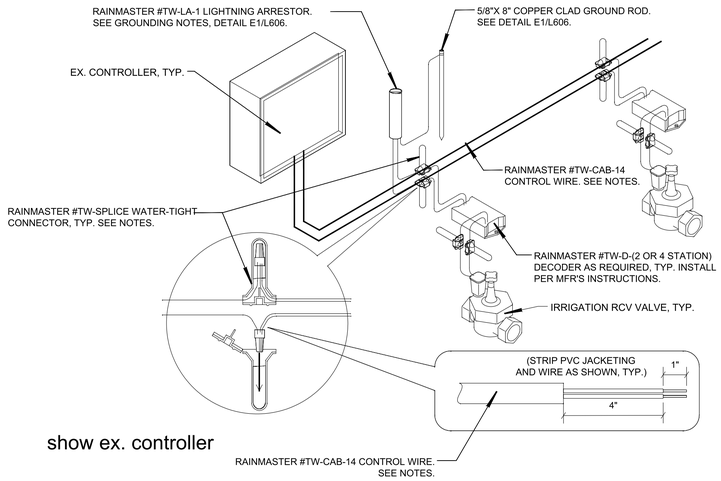
SHEET 48 OF SHEETS 74

PLOTTED: 8/25/2021 8:31 AM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:37 PM
FILE PATH: Q:\IN-HOUSE-DESIGNS\HELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L605-LXX_IRRIGATION DETAILS.DWG

REVISION DATES (DESIGN STAGE ONLY)



WIRING NOTES:

1.) CONTROL WIRE SHALL BE RAINMASTER #TW-CAB-14 OR APPROVED EQUAL: POLYETHYLENE DOUBLE-JACKETED OR UF-B UL PVC DOUBLE-JACKETED TWO-CONDUCTOR SOLID CORE DESIGNED FOR DIRECT BURIAL WITH INSULATION 3/16 INCH (.060ÒÓ) THICK, HIGH DENSITY, SUNLIGHT RESISTANT INCASED IN AN OUTER JACKET OF POLYETHYLENE OR PVC CONFORMING TO ICEA S-GL-402 OR NEMA WC5, HAVING A MINIMUM WALL THICKNESS OF .045 INCHES. (TWO-WIRE POLYETHYLENE "TWISTED" CABLE OR SINGLE STRAND 14-GAUGE PVC IRRIGATION WIRE DOES NOT CONFORM TO THESE SPECIFICATIONS AND WILL NOT BE ACCEPTED).

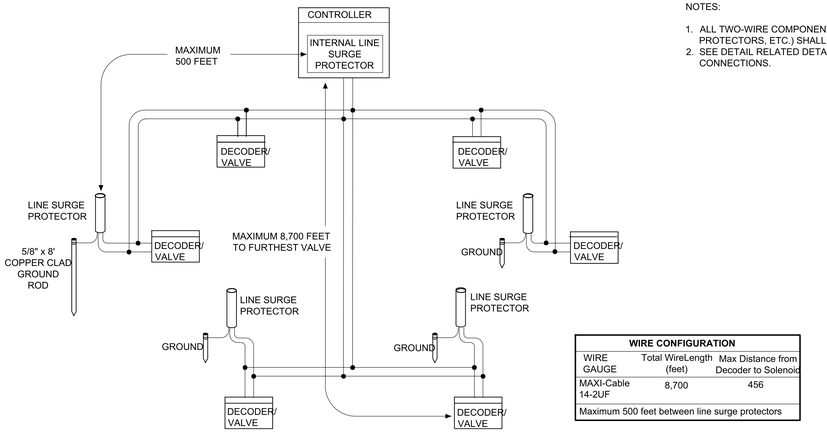
2.) ALL WIRE INSULATION SHALL BE INTACT AND FREE OF NICKS AND CUTS

3.) ATTACHING DECODERS:

- TWIST WIRES TO PROVIDE A SOLID MECHANICAL CONNECTION BEFORE SECURING THE ATTACHMENT BY ADDING THE WIRE NUT.
- RAINMASTER #TW-SPLICE-14 OR APPROVED EQUAL (SURESPLICE, TRADEMARKED) GEL FILLED CONNECTORS (OR SIMILAR) SHALL BE USED ON ALL CONNECTIONS.
- GREASE FILLED WIRE NUTS WILL NOT BE ACCEPTED.
- TEST ALL CONNECTIONS BEFORE IMMERSING THE WIRE NUT IN THE GEL-FILLED CAP.
- ADHERE TO ALL LOCAL AND NATIONAL BUILDING AND ELECTRICAL CODES.
- CONTRACTOR SHALL GUARANTEE ALL WIRE CONNECTIONS TO BE ABSOLUTELY WATER TIGHT.

4.) ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

J1	2-WIRE IRRIGATION SYSTEM WIRING (RAINMASTER OR EQUAL)	
N.T.S.		



NOTES:

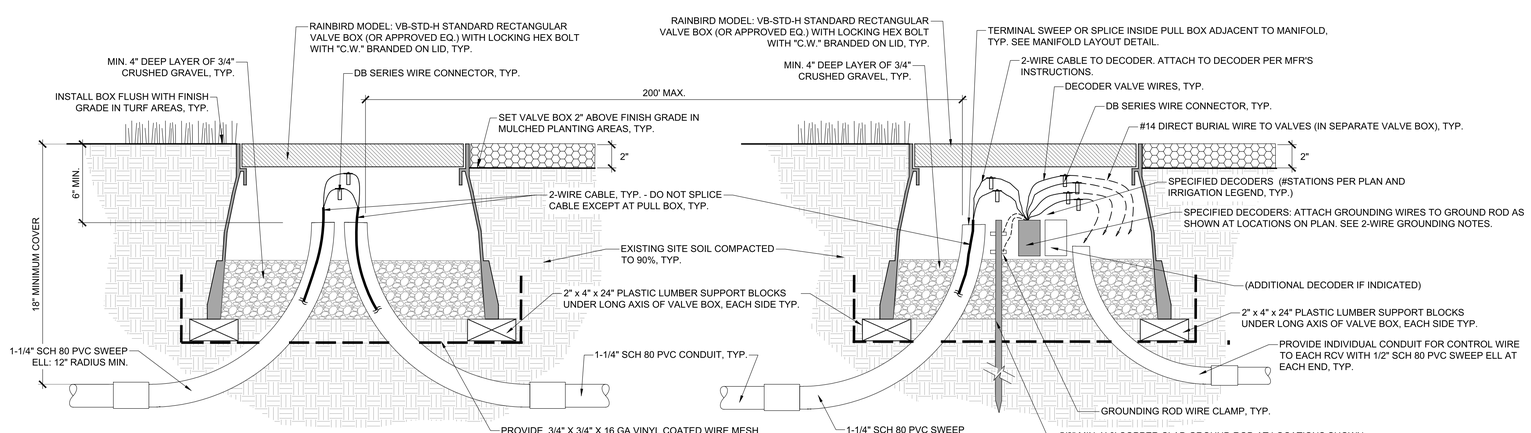
1. ALL TWO-WIRE COMPONENTS (WIRE, DECODERS, SURGE PROTECTORS, ETC.) SHALL BE PROVIDED BY RAINMASTER.
2. SEE DETAIL RELATED DETAILS FOR WIRING AND GROUNDING CONNECTIONS.

WIRE CONFIGURATION

WIRE GAUGE	Total WireLength (feet)	Max Distance from Decoder to Solenoid
MAXI-Cable 14-2UF	8,700	456
Maximum 500 feet between line surge protectors		

BUREAU OF ENGINEERING
OFFICIAL RECORD

J9	2-WIRE SYSTEM LAYOUT	
N.T.S.	B.O.E. 02/16/18	L1372



NOTES:

1. ALL CONDUIT AND FITTINGS SHALL BE SCHEDULE 80 PVC. CHANGES IN DIRECTION OF CONDUIT PATH SHALL NOT EXCEED 360 DEG. FOR EACH SECTION BETWEEN PULL BOXES.
2. MAXIMUM DISTANCE BETWEEN PULL BOXES SHALL BE 200 FEET.
3. MAXIMUM LENGTH OF SECONDARY WIRE PATH (14 AWG) FROM FIELD DECODER TO SOLENOID IS 450 FEET.
4. PROVIDE A COIL OF MIN. 24" OF 2-WIRE CABLE AT EACH SPLICE OR DECODER CONNECTION POINT.

TWO-WIRE SYSTEM GROUNDING REQUIREMENTS:

SURGE PROTECTION USING PROPER GROUNDING RODS IS REQUIRED FOR PROTECTION AGAINST SURGE DAMAGE DUE TO LIGHTNING OR OTHER ELECTRICAL SURGE EVENTS. CONFORMANCE TO THIS SURGE SUPPRESSION SPECIFICATION IS NECESSARY TO RETAIN WARRANTY PROTECTION UNDER MANUFACTURER'S WARRANTY TERMS.

THE INSTALLATION SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS, AND MUST MEET OR EXCEED THE AMERICAN SOCIETY OF IRRIGATION CONSULTANTS (ASIC) EARTH GROUNDING GUIDELINE 100-2002.
HTTP://WWW.ASIC.ORG/UPLOADS/ASSETS/011007_121320_ASIC_GROUNDING_GUIDELINES.DOC

GROUND RODS AS REFERRED TO IN THIS SPECIFICATION SHALL CONFORM TO THE FOLLOWING STANDARDS:

1.) ALL GROUNDING RODS SHALL BE BARE COPPER OF 5/8" DIAMETER OR GREATER, AND 8' LENGTH OR GREATER.

2.) A MEASURED RESISTANCE READING OF NO MORE THAN 10 OHMS IS NECESSARY AT EACH LIGHTNING ARRESTOR. ASIC SPEC: SECTION 7.0 - MEASURING RESISTANCE, ITEM A.

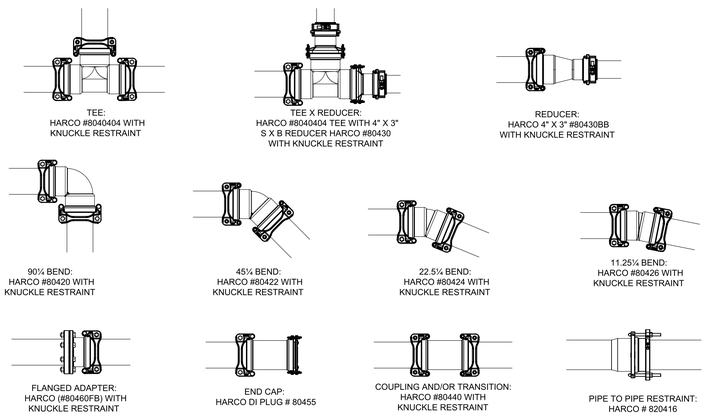
GROUND RODS SHALL BE LOCATED AT A MINIMUM DISTANCE TO ASSURE THAT THE TWO-WIRE PATH IS OUTSIDE OF THE ELECTRODE SPHERE OF INFLUENCE FOR THE GROUNDING ROD: THE GROUND ROD MUST BE CONNECTED AT LEAST 8' AWAY FROM THE TWO-WIRE PATH, AT A RIGHT ANGLE TO THE TWO-WIRE PATH.

UNDER NO CIRCUMSTANCES SHOULD A GROUND ROD BE INSTALLED IN OR UNDER A VALVE BOX, METER BOX OR ELECTRICAL BOX.

CONNECTIONS TO GROUNDING RODS:
ALL CONNECTIONS TO GROUND RODS SHALL CONFORM TO ASIC EARTH GROUNDING GUIDELINE 100-2002, AND SHALL CONSIST OF A SCREW CLAMP TYPE OF CONNECTION.

ANY WIRE EXTENSIONS REQUIRED TO CONNECT FROM A GROUND ROD TO A LIGHTNING ARRESTOR OR ENCLOSURE GROUND LUG SHALL BE BARE COPPER, AND SHALL NOT HAVE ANY SHARP BENDS OR KINKS. WIRE EXTENSIONS CONNECTED TO LIGHTNING ARRESTORS SHALL USE A CADWELD TYPE OR SCREW CLAMP TYPE CONNECTION WHERE THE BARE COPPER GROUND WIRE MEETS THE GREEN GROUNDING WIRE FROM THE LIGHTNING ARRESTOR.

E1	2-WIRE CABLE INSTALLATION AND GROUNDING	
N.T.S.		RP DETAIL L1430



NOTE: ADDITIONAL PIPE & FITTING CONFIGURATIONS MAY BE NECESSARY TO COMPLETE WORK SHOWN ON PLANS DUE TO UNFORSEEN SITE CONDITIONS. CONSULT MANUFACTURER FOR ADDITIONAL INFORMATION. USE #60-100-03 KNUCKLE RESTRAINT ON FITTINGS WHERE DESIGNATED.

A1	RESTRAINED FITTINGS FOR 4" MAINLINE	
N.T.S.	BOE VERSION 02/14/18 - RF	RP DETAIL L1313

MAINLINE PIPE FITTINGS:

1.) DUCTILE IRON FITTINGS WILL BE REQUIRED FOR ALL MAINLINE FITTINGS (CONSTANT PRESSURE) FOR 3" OR LARGER PIPE UNDER THE FOLLOWING CONDITIONS:

A. AS SHOWN ON OTHER DETAILS INCLUDED WITHIN IN THESE PLANS AND SPECIFICATIONS.

B. AT ALL DIRECTIONAL FITTINGS SUCH AS TEES, ELBOWS, ETC., AND REDUCERS, ADAPTERS AND COUPLINGS AS NOTED OR DETAILED.

2.) DUCTILE IRON FITTINGS SHALL BE A "PUSH-ON" TYPE FOR IPS SIZED PVC PIPE BY HARCO FITTINGS (www.harcofittings.com) OR APPROVED EQUAL.

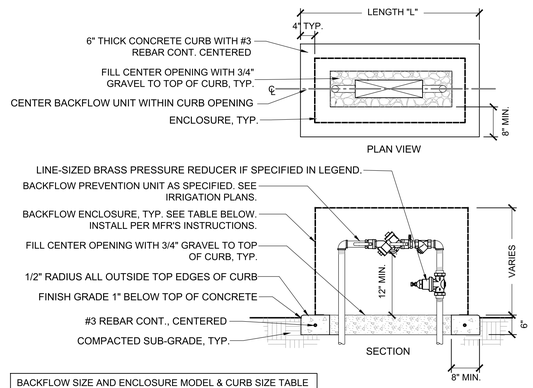
3.) ALL GASKETED PVC PIPE JOINTS WITHIN 25' OF DUCTILE IRON DIRECTIONAL FITTINGS SHALL BE RESTRAINED USING PIPE TO PIPE RESTRAINTS SHOWN. FOR END CAPS AND TERMINAL GATE VALVES, ALL GASKETED PVC PIPE JOINTS WITHIN 40' SHALL BE RESTRAINED USING PIPE TO PIPE RESTRAINT SHOWN. REFER TO MANUFACTURERS FITTING RESTRAINT GUIDE FOR ADDITIONAL INFORMATION.

4.) ALL BOLTS ON FITTING RESTRAINTS SHALL BE TIGHTENED USING A TORQUE WRENCH ONLY FOLLOWING THE MANUFACTURER'S SPECIFICATIONS. THE CONTRACTOR SHALL BE PREPARED TO VERIFY THE TORQUE OF THE BOLTS WITH A TORQUE WRENCH IN THE PRESENCE OF THE BCA INSPECTOR AND SHALL HAVE A TORQUE WRENCH AVAILABLE ON SITE UNTIL JOB ACCEPTANCE.

5.) GLUED JOINTS SHALL NOT BE USED IN ANY MAINLINE PVC FITTINGS OR PIPE 3" OR LARGER IN DIAMETER UNLESS SPECIFICALLY DENOTED ON PLANS OR DETAILS INCLUDED IN THIS DRAWING SET.

6.) THRUST BLOCKS SHALL ONLY BE USED FOR MAINLINE FITTINGS WHERE SPECIFICALLY DESIGNATED IN PLANS OR DETAILS.

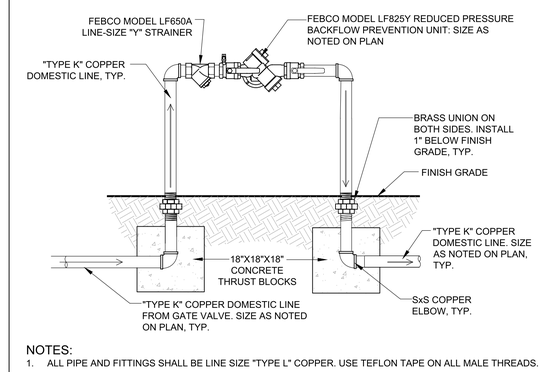
7.) 6" MAINLINE: 4" MODEL #S SHOWN. REFER TO MANUFACTURER FOR MODEL NUMBERS FOR 6" VERSION OF FITTINGS.



BACKFLOW SIZE AND ENCLOSURE MODEL & CURB SIZE TABLE ALL ENCLOSURES SHALL BE POWDER COATED DARK GREEN			
DEVICE SIZE:	STRONG BOX INC. (800) 729-1314	ENCLOSURE DIMEMSIONS (width x length)	LENGTH "L"
3/4" to 1"	SBBC-30CR	18" x 31.5"	40 INCHES
1-1/2" to 2"	SBBC-45CR	18" x 46.5"	55 INCHES
2-1/2" to 3"	SBBC-75CR	25.5" x 76.5"	85 INCHES

ENCLOSURE MOUNTING HARDWARE: REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS BEFORE POURING CONC. CURB.

A9	BACKFLOW DEVICE ENCLOSURE	
N.T.S.	BOE VERSION 10-11-19 RWF	RP DETAIL L1010



NOTES:

1. ALL PIPE AND FITTINGS SHALL BE LINE SIZE "TYPE L" COPPER. USE TEFLON TAPE ON ALL MALE THREADS.
2. PAINT BACKFLOW DEVICE, PRESSURE REGULATOR AN EXPOSED PIPING WITH TWO COATS OF FOREST GREEN ENAMEL PAINT. MASK ALL IDENTIFICATION TAGS AND VALVE OPERATING HANDLES.
3. THE CONTRACTOR SHALL HAVE THE BACKFLOW PREVENTER TESTED BY A CERTIFIED TESTER. A "BACKFLOW PREVENTION DEVICE TESTING REPORT" SHALL BE SUBMITTED TO THE LOS ANGELES COUNTY HEALTH DEPT; A COPY OF THE REPORT SHALL BE GIVEN TO THE PROJECT MANAGER AT THE OPERATIONAL FINAL.
4. SEE BACKFLOW ENCLOSURE DETAIL.

A13	DOMESTIC LINE BACKFLOW PREVENTION UNIT	
N.T.S.		RP DETAIL L1001

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

LANDSCAPE ARCHITECT: JANE ADRIAN LIC. NO.: 3940 DATE: 04/21/2021
ARCHITECTURAL DIVISION
DESIGNED BY: GREG MOESER 04/21/2021
DRAWN BY: GREG MOESER 04/21/2021
CHECKED BY: RICHARD FISHER 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT 08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: IRRIGATION DETAILS SHEET 2
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES
ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING
REVISION DESCRIPTION | DATE | BY | NO.

RAP FACILITY NO. 837
INDEX NO. RP-300119

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L606
SHEET 49 OF SHEETS 74

PLOTTED: 8/25/2021 8:31 AM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:37 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L605-LXX_IRRIGATION DETAILS.DWG
REVISION DATES: (DESIGN STAGE ONLY)

PLANTING NOTES

1. EXISTING TREE PROTECTION: SEE TREE PROTECTION SECTION IN LANDSCAPE CONSTRUCTION NOTES.
2. CONTRACTOR SHALL PAY FOR TWO (2) AGRONOMIC SOIL TESTS FROM WALLACE LABORATORY OR APPROVED EQUAL. SOIL PREPARATION AMENDMENTS IDENTIFIED IN THE LANDSCAPE CONSTRUCTION NOTES MAY NEED TO BE MODIFIED PER THE TESTING RESULTS AND SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT/PROJECT MANAGER.
3. ALL PLANTING AREAS SHALL RECEIVE SOIL PREPARATION PER THE LANDSCAPE CONSTRUCTION NOTES. AREAS INSIDE TREE PROTECTION ZONES SHALL RECEIVE ALTERNATE SOIL PREPARATION METHODS AND MATERIALS PER THE LANDSCAPE CONSTRUCTION NOTES WHERE DESIGNATED.
4. SOIL PREPARATION FOR EACH AREA SHALL NOT BE PERFORMED UNTIL THE IRRIGATION SYSTEM IS COMPLETED, INSPECTED AND APPROVED PER THE LANDSCAPE CONSTRUCTION NOTES.
5. HYDROSEEDING, SOD OR CONTAINER PLANTING SHALL NOT BE INSTALLED UNTIL AFTER SOIL PREPARATION, FINE GRADING AND "GROW AND KILL" WEED ABATEMENT PER THE LANDSCAPE CONSTRUCTION NOTES ARE COMPLETED AND APPROVED. SPECIMEN TREES IN PAVED AREAS MAY BE EXEMPTED AT THE DISCRETION OF CITY ENGINEER.
6. TREE PLANTING SHALL BE PERFORMED PER DETAIL J13/L705.
7. SHRUB PLANTING SHALL BE PERFORMED PER DETAIL E13/L705.
8. PLANTING LEGEND AS SHOWN ON EACH PLANTING PLAN SHEET IS ***FOR THE ENTIRE PROJECT***, AND IS INCLUDED FOR THE CONVENIENCE OF THE CONTRACTOR. IN CASE OF DISCREPANCIES, THE QUANTITY OF SYMBOLS FOR EACH PLANT SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL QUANTITIES AS SHOWN ON THE PLANTING PLAN.
9. AVAILABILITY & SUBSTITUTIONS: NO SUBSTITUTIONS OF PLANT SPECIES, TYPE, CULTIVAR, SIZE ETC. WILL BE ACCEPTED WITHOUT PRIOR APPROVAL OF PROJECT MANAGER. CONTRACTOR IS EXPECTED TO UTILIZE ALL APPROPRIATE NURSERY RESOURCES IN THE SOUTHERN CALIFORNIA REGION BEFORE DETERMINING IF A SPECIFIED MATERIAL IS UNAVAILABLE. SEE LANDSCAPE CONSTRUCTION NOTES.
10. SEE THE LANDSCAPE CONSTRUCTION NOTES FOR REQUIRED INSPECTIONS OF PLANT MATERIALS PRIOR TO INSTALLATION.
11. AFTER PLANT MATERIALS ARE INSPECTED AND APPROVED, AND PLANTING AREA IS READY FOR PLANTING, CONTRACTOR SHALL PLACE ALL CONTAINER PLANTS IN A GIVEN AREA - STILL INSIDE THEIR RESPECTIVE NURSERY CONTAINERS - IN THE PLANTING AREAS PER THE LAYOUT SHOWN ON THE PLANTING PLAN FOR INSPECTION AND APPROVAL BY THE LANDSCAPE ARCHITECT. NO PLANTING SHALL BE INSTALLED (OR PLANTING HOLES EXCAVATED) UNTIL THE PLANT TYPE, QUALITY AND LOCATION HAS BEEN APPROVED BY THE LANDSCAPE ARCHITECT. ANY PLANTS INSTALLED PRIOR TO APPROVAL ARE SUBJECT TO REMOVAL AND RE-PLANTING OR REPLACEMENT AT THE CONTRACTOR'S EXPENSE. PROJECT MANAGER SHALL BE NOTIFIED MINIMUM 48 HOURS IN ADVANCE OF REQUESTED INSPECTION.
12. ALL PLANTING AREAS EXCEPT HYDROSEEDED AND SODDED AREAS SHALL RECEIVE A MINIMUM (3) INCH DEEP LAYER OF TOP DRESSING MULCH PER THE PLANTING DETAILS AND THE LANDSCAPE CONSTRUCTION NOTES MATERIALS LIST. PRIOR TO PLACING MULCH, PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO THE SOIL PER LANDSCAPE CONSTRUCTION NOTES.
13. MULCH SHALL BE SPREAD EVENLY THROUGHOUT PLANTING BEDS. DO NOT BURY PLANT CROWNS.
14. SEE LANDSCAPE CONSTRUCTION NOTES FOR PLANTING MAINTENANCE AND ESTABLISHMENT PERIOD REQUIREMENTS.

GREEN BUILDING NOTES:

1. REFER TO SHEET L707 FOR LANDSCAPE WATER EFFICIENT WORKSHEET.
2. FOR PROJECTS THAT INCLUDE LANDSCAPE WORK, THE LANDSCAPE CERTIFICATION, FORM GRN 12, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL.
3. RECIRCULATING WATER SYSTEMS SHALL BE USED FOR WATER FEATURES.
4. A MINIMUM 3-INCH LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED.
5. FOR SOILS LESS THAN 6% ORGANIC MATTER IN THE TOP 6 INCHES OF SOIL, COMPOST AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.
6. I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.

5/27/2020
JANE ADRIAN, LANDSCAPE ARCHITECT DATE

7. I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLANS.

5/27/2020
JANE ADRIAN, LANDSCAPE ARCHITECT DATE



TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
Ch	CHILOPSIS LINEARIS 'BUBBA'	DESERT WILLOW	24" BOX	11	LOW	STD. STAKE PER DETAIL.
Hf	HESPEROCYPARIS FORBESII	TECATE CYPRESS	15 GAL.	11	VERY LOW	STD. STAKE PER DETAIL. (ALTERNATE = HESPEROCYPARIS ARIZONICA)
Pe	PINUS ELDARICA	MONDELL PINE	24" BOX	7	LOW	STAKE PER DETAIL.
Pc	PISTACIA X 'RED PUSH'	CHINESE PISTACHE	24" BOX	14	MODERATE	STD. STAKE PER DETAIL.
Qa	QUERCUS AGRIFOLIA	COAST LIVE OAK	24" BOX	27	LOW	NAT. STAKE PER DETAIL.
Tt	TIPUANA TIPU	TIPU TREE	24" BOX	14	MODERATE	STD. STAKE PER DETAIL.

SHRUB LEGEND

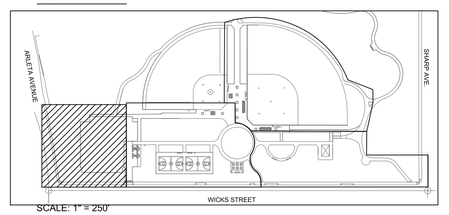
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
Af	ADENOSTOMA FASCICULATUM	CHAMISE	5 GAL	55	VERY LOW	STAKE PER DETAIL.
Aac	AGAVE AMERICANA	CENTURY PLANT	1 GAL	84	VERY LOW	STAKE PER DETAIL.
Bn	BERBERIS NEVINII	NEVIN'S BARBERRY	5 GAL	38	LOW	STAKE PER DETAIL.
C	CARISSA MACROCARPA 'GREEN CARPET'	GREEN CARPET NATAL PLUM	5 GAL	8	MOD.	STAKE PER DETAIL.
Cb	CERCOCARPUS BETULOIDES	MOUNTAIN MAHOGANY	5 GAL	33	VERY LOW	STAKE PER DETAIL.
Opb	OPUNTIA LITTORALIS	COASTAL PRICKLY PEAR	1 GAL	99	VERY LOW	STAKE PER DETAIL.
Ri	RHUS INTEGRIFOLIA	LEMONADE BERRY	5 GAL	37	LOW	STAKE PER DETAIL.
Sn	SAMBUCUS NIGRA SSP CERULEA	BLUE ELDERBERRY	5 GAL	17	LOW	STAKE PER DETAIL.

TURF AND HYDROSEED LEGEND

SYMBOL	DESCRIPTION	REMARKS	WUCOLS
	TURF	"BALLPARK BLEND" BY AG SOD OR APPROVED EQUAL.	MOD.
	BIOFILTRATON AREA PLANTING	'UC VERDE' BUFFALOGRASS FROM PLUGS @ 24" O.C. 1-1G SPOROBOLIS AIROIDES PER 100 SF. LOCATIONS TO BE DETERMINED BY LANDSCAPE ARCHITECT IN FIELD AT TIME OF PLANTING. REFER TO DETAIL J9/L406, GRADING PLANS L310/L302 AND LANDSCAPE CONSTRUCTION NOTES FOR CONSTRUCTION/ SOIL PREPARATION.	LOW
	HYDROSEED MIX	ACMISPON GLABER, DEERWEED - 4.0 lbs/AC ARTEMISIA CALIFORNICA, CALIF. SAGEBRUSH - 2.0 lbs/AC CRYPTANTHA INTERMEDIA, COMMON CRYPTANTHA - 1.0 lb/AC ENCELIA CALIFORNICA, BUSH SUNFLOWER - 3.0 lbs/AC ESCHSCHOLZIA CALIFORNICA, CALIF. POPPY - 2.5 lbs/AC GUTIERREZIA CALIFORNICA, MATCHWEED - 1.0 lb/AC ISOCOMA MENZIESII, MENZIES' GOLDENBUSH - 2 lbs/AC LASTHENIA CALIFORNICA, CALIF. GOLDFIELDS - 1.0 lb/AC LUPINUS SUCCULENTUS, ARROYO LUPINE - 4.0 lbs/AC MIMULUS AURANTIACUS, STICKY MONKEYFLOWER - 2.0 lbs/AC PHACELIA RAMOSISSIMA, BRANCHING PHACELIA - .5 lb/AC PENSTEMON SPECTABILIS, SHOWY PENSTEMON - 1.0 lb/AC SALVIA APIANA, WHITE SAGE - 2.0 lbs/AC SALVIA MELLIFERA, BLACK SAGE - 2.0 lbs./AC	VERY LOW - LOW

-----#----- HYDROZONE - REFER TO WATER EFFICIENT LANDSCAPE WORKSHEET, SHEET L705.

KEY MAP:



SCALE: 1" = 250'

SCALE: 1" = 20'

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BUREAU OF ENGINEERING
REVISION DESCRIPTION | DATE | BY | NO.

RAP FACILITY NO. 837

INDEX NO. RP-300119

ENGINEERING
CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER
ARCHITECTURAL DIVISION

LANDSCAPE ARCHITECT: JANE ADRIAN	LIC. NO.: 3940	DATE: 04/21/2021	04/21/2021	04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021		
DRAWN BY: GREG MOESER		04/21/2021		
CHECKED BY: RICHARD FISHER		04/21/2021		08/05/2021
APPROVED BY: STEVEN FIERCE, AIA PRINCIPAL ARCHITECT				

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLANTING PLAN SHEET 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L701
SHEET 50 OF SHEETS 74

PLOTTED: 8/25/2021 8:42 AM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/25/2021 8:42 AM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGNWORKING_DRAWINGS\L701 - L70X_PLANTING.DWG

REVISION DATES (DESIGN STAGE ONLY)

PLANTING NOTES

1. EXISTING TREE PROTECTION: SEE TREE PROTECTION SECTION IN LANDSCAPE CONSTRUCTION NOTES.
2. CONTRACTOR SHALL PAY FOR TWO (2) AGRONOMIC SOIL TESTS FROM WALLACE LABORATORY OR APPROVED EQUAL. SOIL PREPARATION AMENDMENTS IDENTIFIED IN THE LANDSCAPE CONSTRUCTION NOTES MAY NEED TO BE MODIFIED PER THE TESTING RESULTS AND SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT/PROJECT MANAGER.
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4. SOIL PREPARATION FOR EACH AREA SHALL NOT BE PERFORMED UNTIL THE IRRIGATION SYSTEM IS COMPLETED, INSPECTED AND APPROVED PER THE LANDSCAPE CONSTRUCTION NOTES.
5. HYDROSEEDING, SOD OR CONTAINER PLANTING SHALL NOT BE INSTALLED UNTIL AFTER SOIL PREPARATION, FINE GRADING AND "GROW AND KILL" WEED ABATEMENT PER THE LANDSCAPE CONSTRUCTION NOTES ARE COMPLETED AND APPROVED. SPECIMEN TREES IN PAVED AREAS MAY BE EXEMPTED AT THE DISCRETION OF CITY ENGINEER.
6. TREE PLANTING SHALL BE PERFORMED PER DETAIL J13/L705.
7. SHRUB PLANTING SHALL BE PERFORMED PER DETAIL E13/L705.
8. PLANTING LEGEND AS SHOWN ON EACH PLANTING PLAN SHEET IS ***FOR THE ENTIRE PROJECT***, AND IS INCLUDED FOR THE CONVENIENCE OF THE CONTRACTOR. IN CASE OF DISCREPANCIES, THE QUANTITY OF SYMBOLS FOR EACH PLANT SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL QUANTITIES AS SHOWN ON THE PLANTING PLAN.
9. AVAILABILITY & SUBSTITUTIONS: NO SUBSTITUTIONS OF PLANT SPECIES, TYPE, CULTIVAR, SIZE ETC. WILL BE ACCEPTED WITHOUT PRIOR APPROVAL OF PROJECT MANAGER. CONTRACTOR IS EXPECTED TO UTILIZE ALL APPROPRIATE NURSERY RESOURCES IN THE SOUTHERN CALIFORNIA REGION BEFORE DETERMINING IF A SPECIFIED MATERIAL IS UNAVAILABLE. SEE LANDSCAPE CONSTRUCTION NOTES.
10. SEE THE LANDSCAPE CONSTRUCTION NOTES FOR REQUIRED INSPECTIONS OF PLANT MATERIALS PRIOR TO INSTALLATION.
11. AFTER PLANT MATERIALS ARE INSPECTED AND APPROVED, AND PLANTING AREA IS READY FOR PLANTING, CONTRACTOR SHALL PLACE ALL CONTAINER PLANTS IN A GIVEN AREA - STILL INSIDE THEIR RESPECTIVE NURSERY CONTAINERS - IN THE PLANTING AREAS PER THE LAYOUT SHOWN ON THE PLANTING PLAN FOR INSPECTION AND APPROVAL BY THE LANDSCAPE ARCHITECT. NO PLANTING SHALL BE INSTALLED (OR PLANTING HOLES EXCAVATED) UNTIL THE PLANT TYPE, QUALITY AND LOCATION HAS BEEN APPROVED BY THE LANDSCAPE ARCHITECT. ANY PLANTS INSTALLED PRIOR TO APPROVAL ARE SUBJECT TO REMOVAL AND RE-PLANTING OR REPLACEMENT AT THE CONTRACTOR'S EXPENSE. PROJECT MANAGER SHALL BE NOTIFIED MINIMUM 48 HOURS IN ADVANCE OF REQUESTED INSPECTION.
12. ALL PLANTING AREAS EXCEPT HYDROSEEDED AND SODDED AREAS SHALL RECEIVE A MINIMUM (3) INCH DEEP LAYER OF TOP DRESSING MULCH PER THE PLANTING DETAILS AND THE LANDSCAPE CONSTRUCTION NOTES MATERIALS LIST. PRIOR TO PLACING MULCH, PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO THE SOIL PER LANDSCAPE CONSTRUCTION NOTES.
13. MULCH SHALL BE SPREAD EVENLY THROUGHOUT PLANTING BEDS. DO NOT BURY PLANT CROWNS.
14. SEE LANDSCAPE CONSTRUCTION NOTES FOR PLANTING MAINTENANCE AND ESTABLISHMENT PERIOD REQUIREMENTS.

TURF AND HYDROSEED LEGEND

SYMBOL	DESCRIPTION	REMARKS	WUCOLS
	TURF	"BALLPARK BLEND" BY AG SOD OR APPROVED EQUAL.	MOD.
	BIOFILTRATON AREA PLANTING	'UC VERDE' BUFFALOGRASS FROM PLUGS @ 24" O.C. 1-1G SPOROBOLIS AIROIDES PER 100 SF. LOCATIONS TO BE DETERMINED BY LANDSCAPE ARCHITECT IN FIELD AT TIME OF PLANTING. REFER TO DETAIL J9/L406, GRADING PLANS L310/L302 AND LANDSCAPE CONSTRUCTION NOTES FOR CONSTRUCTION/ SOIL PREPARATION.	LOW
	HYDROSEED MIX	ACMISPON GLABER, DEERWEED - 4.0 lbs/AC ARTEMISIA CALIFORNICA, CALIF. SAGEBRUSH - 2.0 lbs/AC CRYPTANTHA INTERMEDIA, COMMON CRYPTANTHA - 1.0 lb/AC ENCELIA CALIFORNICA, BUSH SUNFLOWER - 3.0 lbs/AC ESCHSCHOLZIA CALIFORNICA, CALIF. POPPY - 2.5 lbs/AC GUTIERREZIA CALIFORNICA, MATCHWEED - 1.0 lb/AC ISOCOMA MENZIESII, MENZIES' GOLDENBUSH - 2 lbs/AC LASTHENIA CALIFORNICA, CALIF. GOLDFIELDS - 1.0 lb/AC LUPINUS SUCCULENTUS, ARROYO LUPINE - 4.0 lbs/AC MIMULUS AURANTIACUS, STICKY MONKEYFLOWER - 2.0 lbs/AC PHACELIA RAMOSISSIMA, BRANCHING PHACELIA - .5 lb/AC PENSTEMON SPECTABILIS, SHOWY PENSTEMON - 1.0 lb/AC SALVIA APIANA, WHITE SAGE - 2.0 lbs/AC SALVIA MELLIFERA, BLACK SAGE - 2.0 lbs./AC	VERY LOW - LOW

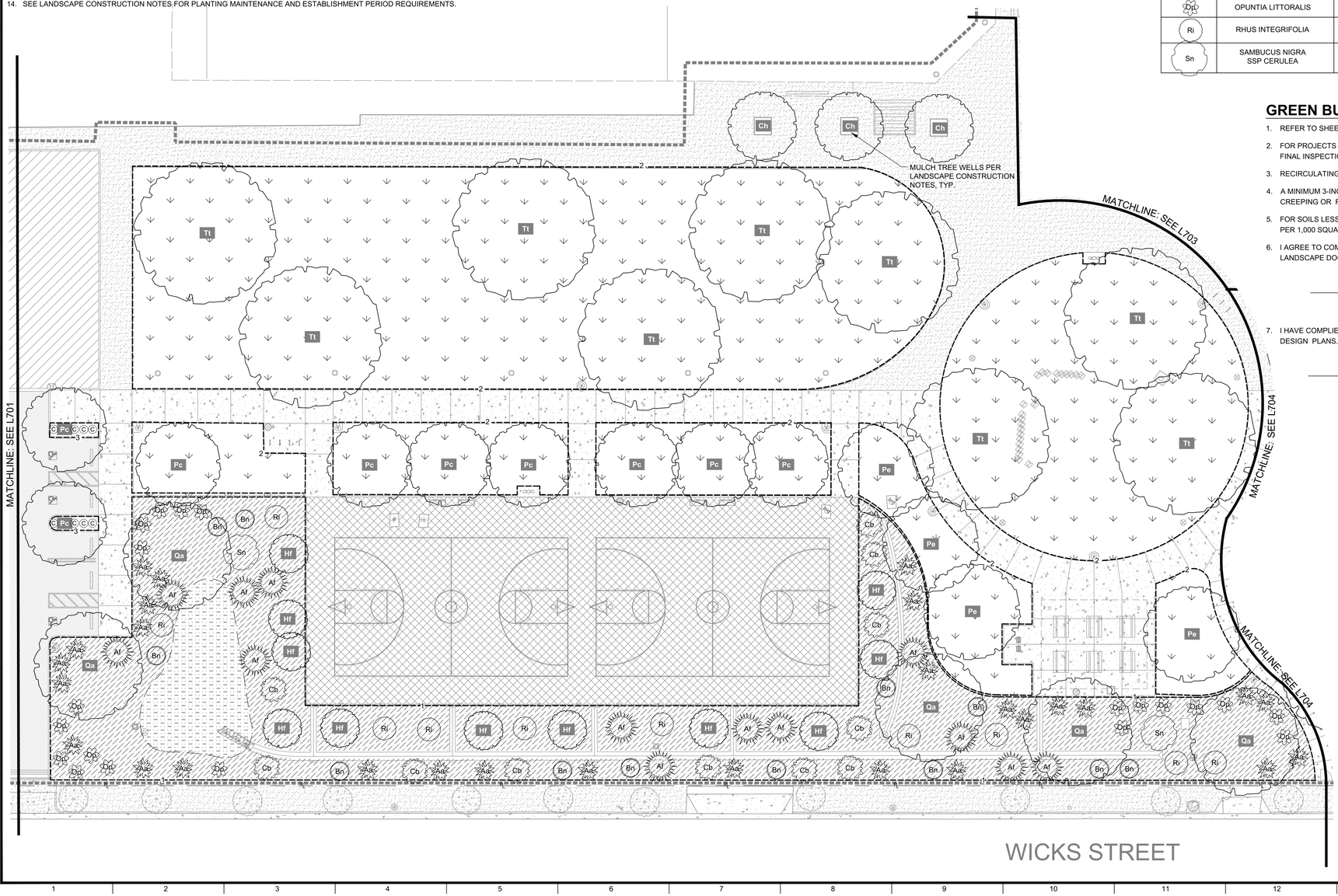
-----#----- HYDROZONE - REFER TO WATER EFFICIENT LANDSCAPE WORKSHEET, SHEET L705.

TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
Ch	CHILOPSIS LINEARIS 'BUBBA'	DESERT WILLOW	24" BOX	11	LOW	STD. STAKE PER DETAIL.
Hf	HESPEROCYPARIS FORBESII	TECATE CYPRESS	15 GAL.	11	VERY LOW	STD. STAKE PER DETAIL. (ALTERNATE = HESPEROCYPARIS ARIZONICA)
Pe	PINUS ELDARICA	MONDELL PINE	24" BOX	7	LOW	STAKE PER DETAIL.
Pc	PISTACIA X 'RED PUSH'	CHINESE PISTACHE	24" BOX	14	MODERATE	STD. STAKE PER DETAIL.
Qa	QUERCUS AGRIFOLIA	COAST LIVE OAK	24" BOX	27	LOW	NAT. STAKE PER DETAIL.
Tt	TIPUANA TIPU	TIPU TREE	24" BOX	14	MODERATE	STD. STAKE PER DETAIL.

SHRUB LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
Af	ADENOSTOMA FASCICULATUM	CHAMISE	5 GAL	55	VERY LOW	STAKE PER DETAIL.
Aa	AGAVE AMERICANA	CENTURY PLANT	1 GAL	84	VERY LOW	STAKE PER DETAIL.
Bn	BERBERIS NEVINII	NEVIN'S BARBERRY	5 GAL	38	LOW	STAKE PER DETAIL.
C	CARISSA MACROCARPA 'GREEN CARPET'	GREEN CARPET NATAL PLUM	5 GAL	8	MOD.	STAKE PER DETAIL.
Cb	CERCOCARPUS BETULOIDES	MOUNTAIN MAHOGANY	5 GAL	33	VERY LOW	STAKE PER DETAIL.
Oi	OPUNTIA LITTORALIS	COASTAL PRICKLY PEAR	1 GAL	99	VERY LOW	STAKE PER DETAIL.
Ri	RHUS INTEGRIFOLIA	LEMONADE BERRY	5 GAL	37	LOW	STAKE PER DETAIL.
Sn	SAMBUCUS NIGRA SSP CERULEA	BLUE ELDERBERRY	5 GAL	17	LOW	STAKE PER DETAIL.



GREEN BUILDING NOTES:

1. REFER TO SHEET L707 FOR LANDSCAPE WATER EFFICIENT WORKSHEET.
2. FOR PROJECTS THAT INCLUDE LANDSCAPE WORK, THE LANDSCAPE CERTIFICATION, FORM GRN 12, SHALL BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL.
3. RECIRCULATING WATER SYSTEMS SHALL BE USED FOR WATER FEATURES.
4. A MINIMUM 3-INCH LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED.
5. FOR SOILS LESS THAN 6% ORGANIC MATTER IN THE TOP 6 INCHES OF SOIL, COMPOST AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.
6. I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.

5/27/2020
JANE ADRIAN, LANDSCAPE ARCHITECT DATE

7. I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLANS.

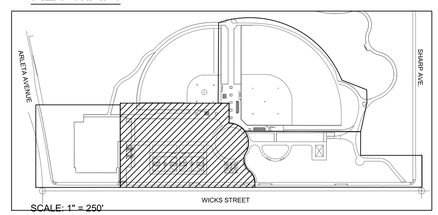
5/27/2020
JANE ADRIAN, LANDSCAPE ARCHITECT DATE

BUREAU OF ENGINEERING
OFFICIAL RECORD

DIGALERT
Call Toll Free 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert of Southern California

0 10' 20' 40'
SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

BUREAU OF ENGINEERING
REVISION DESCRIPTION | DATE | BY
NO.

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
JANE ADRIAN
LANDSCAPE ARCHITECTS
LIC. NO.: 3940
04-05-21
Date
Expiration Date
10-31-21
STATE OF CALIFORNIA

ENGINEERING
CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
ARCHITECTURAL DIVISION	LIC. NO.: 3940	
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLANTING PLAN SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L702
SHEET 51 OF SHEETS 74

PLOTTED: 8/25/2021 8:33 AM

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

T:\LB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:37 PM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L701 - L70X_PLANTING.DWG

REVISION DATES (DESIGN STAGE ONLY)

TURF AND HYDROSEED LEGEND

SYMBOL	DESCRIPTION	REMARKS	WUCOLS
	TURF	"BALLPARK BLEND" BY AG SOD OR APPROVED EQUAL.	MOD.
	BIOFILTRATON AREA PLANTING	'UC VERDE' BUFFALOGRASS FROM PLUGS @ 24" O.C. 1-1G SPOROBOLIS AIROIDES PER 100 SF. LOCATIONS TO BE DETERMINED BY LANDSCAPE ARCHITECT IN FIELD AT TIME OF PLANTING. REFER TO DETAIL /0/L406, GRADING PLANS L310/L302 AND LANDSCAPE CONSTRUCTION NOTES FOR CONSTRUCTION/ SOIL PREPARATION.	LOW
	HYDROSEED MIX	ACMISPON GLABER, DEERWEED - 4.0 lbs/AC ARTEMISIA CALIFORNICA, CALIF. SAGEBRUSH - 2.0 lbs/AC CRYPTANTHA INTERMEDIA, COMMON CRYPTANTHA - 1.0 lb/AC ENCELIA CALIFORNICA, BUSH SUNFLOWER - 3.0 lbs/AC ESCHSCHOLZIA CALIFORNICA, CALIF. POPPY - 2.5 lbs/AC GUTIERREZIA CALIFORNICA, MATCHWEED - 1.0 lb/AC ISOCOMA MENZIESII, MENZIES' GOLDENBUSH - 2 lbs/AC LASTHENIA CALIFORNICA, CALIF. GOLDFIELDS - 1.0 lb/AC LUPINUS SUCCULENTUS, ARROYO LUPINE - 4.0 lbs/AC MIMULUS AURANTIACUS, STICKY MONKEYFLOWER - 2.0 lbs/AC PHACELIA RAMOSISSIMA, BRANCHING PHACELIA - .5 lb/AC PENSTEMON SPECTABILIS, SHOWY PENSTEMON - 1.0 lb/AC SALVIA APIANA, WHITE SAGE - 2.0 lbs/AC SALVIA MELLIFERA, BLACK SAGE - 2.0 lbs./AC	VERY LOW - LOW

TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
Ch	CHILOPSIS LINEARIS 'BUBBA'	DESERT WILLOW	24" BOX	11	LOW	STD. STAKE PER DETAIL.
Hf	HESPEROCYPARIS FORBESII	TECATE CYPRESS	15 GAL.	11	VERY LOW	STD. STAKE PER DETAIL. (ALTERNATE = HESPEROCYPARIS ARIZONICA)
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SHRUB LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
Af	ADENOSTOMA FASCICULATUM	CHAMISE	5 GAL	55	VERY LOW	STAKE PER DETAIL.
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Bn	BERBERIS NEVINII	NEVIN'S BARBERRY	5 GAL	38	LOW	STAKE PER DETAIL.
C	CARISSA MACROCARPA 'GREEN CARPET'	GREEN CARPET NATAL PLUM	5 GAL	8	MOD.	STAKE PER DETAIL.
Cb	CERCOCARPUS BETULOIDES	MOUNTAIN MAHOGANY	5 GAL	33	VERY LOW	STAKE PER DETAIL.
Dd	OPUNTIA LITTORALIS	COASTAL PRICKLY PEAR	1 GAL	99	VERY LOW	STAKE PER DETAIL.
Ri	RHUS INTEGRIFOLIA	LEMONADE BERRY	5 GAL	37	LOW	STAKE PER DETAIL.
Sn	SAMBUCUS NIGRA SSP CERULEA	BLUE ELDERBERRY	5 GAL	17	LOW	STAKE PER DETAIL.

-----# ----- HYDROZONE - REFER TO WATER EFFICIENT LANDSCAPE WORKSHEET, SHEET L705.

REFER TO SHEETS L701, L702, AND L703 FOR PLANTING AND GREEN BUILDING NOTES

MULCH AREAS DISTURBED DUE TO GRADING PER LANDSCAPE CONSTRUCTION NOTES, TYP.

MULCH TREE WELLS PER LANDSCAPE CONSTRUCTION NOTES, TYP.

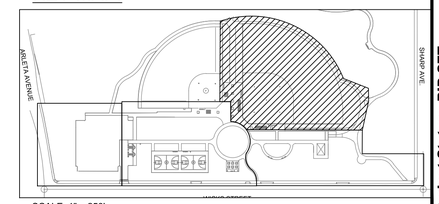
MATCHLINE: SEE L702

MATCHLINE: SEE L702

MATCHLINE: SEE L704

BUREAU OF ENGINEERING
OFFICIAL RECORD

KEY MAP:



SCALE: 1" = 250'

0 10' 20' 40'

SCALE: 1" = 20'

DIGALERT
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PROVISION DATES: (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:37 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L701 - L70X_PLANTING.DWG

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
DONALD ADRIAN
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
ARCHITECTURAL DIVISION	LIC. NO.: 3940	04/21/2021
LANDSCAPE ARCHITECT: JANE ADRIAN		04/21/2021
DESIGNED BY: GREG MOESER		04/21/2021
DRAWN BY: GREG MOESER		04/21/2021
CHECKED BY: RICHARD FISHER		08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		

CITY OF LOS ANGELES

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLANTING PLAN SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L703
SHEET 52 OF SHEETS 74

PLOTTED: 8/25/2021 8:34 AM

PLANTING NOTES

1. EXISTING TREE PROTECTION: SEE TREE PROTECTION SECTION IN LANDSCAPE CONSTRUCTION NOTES.
2. CONTRACTOR SHALL PAY FOR TWO (2) AGRONOMIC SOIL TESTS FROM WALLACE LABORATORY OR APPROVED EQUAL. SOIL PREPARATION AMENDMENTS IDENTIFIED IN THE LANDSCAPE CONSTRUCTION NOTES MAY NEED TO BE MODIFIED PER THE TESTING RESULTS AND SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT/PROJECT MANAGER.
3. ALL PLANTING AREAS SHALL RECEIVE SOIL PREPARATION PER THE LANDSCAPE CONSTRUCTION NOTES. AREAS INSIDE TREE PROTECTION ZONES SHALL RECEIVE ALTERNATE SOIL PREPARATION METHODS AND MATERIALS PER THE LANDSCAPE CONSTRUCTION NOTES WHERE DESIGNATED.
4. SOIL PREPARATION FOR EACH AREA SHALL NOT BE PERFORMED UNTIL THE IRRIGATION SYSTEM IS COMPLETED, INSPECTED AND APPROVED PER THE LANDSCAPE CONSTRUCTION NOTES.
5. HYDROSEEDING, SOD OR CONTAINER PLANTING SHALL NOT BE INSTALLED UNTIL AFTER SOIL PREPARATION, FINE GRADING AND "GROW AND KILL" WEED ABATEMENT PER THE LANDSCAPE CONSTRUCTION NOTES ARE COMPLETED AND APPROVED. SPECIMEN TREES IN PAVED AREAS MAY BE EXEMPTED AT THE DISCRETION OF CITY ENGINEER.
6. TREE PLANTING SHALL BE PERFORMED PER DETAIL J13/L705.
7. SHRUB PLANTING SHALL BE PERFORMED PER DETAIL E13/L705.
8. PLANTING LEGEND AS SHOWN ON EACH PLANTING PLAN SHEET IS ***FOR THE ENTIRE PROJECT***, AND IS INCLUDED FOR THE CONVENIENCE OF THE CONTRACTOR. IN CASE OF DISCREPANCIES, THE QUANTITY OF SYMBOLS FOR EACH PLANT SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL QUANTITIES AS SHOWN ON THE PLANTING PLAN.
9. AVAILABILITY & SUBSTITUTIONS: NO SUBSTITUTIONS OF PLANT SPECIES, TYPE, CULTIVAR, SIZE ETC. WILL BE ACCEPTED WITHOUT PRIOR APPROVAL OF PROJECT MANAGER. CONTRACTOR IS EXPECTED TO UTILIZE ALL APPROPRIATE NURSERY RESOURCES IN THE SOUTHERN CALIFORNIA REGION BEFORE DETERMINING IF A SPECIFIED MATERIAL IS UNAVAILABLE. SEE LANDSCAPE CONSTRUCTION NOTES.
10. SEE THE LANDSCAPE CONSTRUCTION NOTES FOR REQUIRED INSPECTIONS OF PLANT MATERIALS PRIOR TO INSTALLATION.
11. AFTER PLANT MATERIALS ARE INSPECTED AND APPROVED, AND PLANTING AREA IS READY FOR PLANTING, CONTRACTOR SHALL PLACE ALL CONTAINER PLANTS IN A GIVEN AREA - STILL INSIDE THEIR RESPECTIVE NURSERY CONTAINERS - IN THE PLANTING AREAS PER THE LAYOUT SHOWN ON THE PLANTING PLAN FOR INSPECTION AND APPROVAL BY THE LANDSCAPE ARCHITECT. NO PLANTING SHALL BE INSTALLED (OR PLANTING HOLES EXCAVATED) UNTIL THE PLANT TYPE, QUALITY AND LOCATION HAS BEEN APPROVED BY THE LANDSCAPE ARCHITECT. ANY PLANTS INSTALLED PRIOR TO APPROVAL ARE SUBJECT TO REMOVAL AND RE-PLANTING OR REPLACEMENT AT THE CONTRACTOR'S EXPENSE. PROJECT MANAGER SHALL BE NOTIFIED MINIMUM 48 HOURS IN ADVANCE OF REQUESTED INSPECTION.
12. ALL PLANTING AREAS EXCEPT HYDROSEEDED AND SODDED AREAS SHALL RECEIVE A MINIMUM (3) INCH DEEP LAYER OF TOP DRESSING MULCH PER THE PLANTING DETAILS AND THE LANDSCAPE CONSTRUCTION NOTES MATERIALS LIST. PRIOR TO PLACING MULCH, PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO THE SOIL PER LANDSCAPE CONSTRUCTION NOTES.
13. MULCH SHALL BE SPREAD EVENLY THROUGHOUT PLANTING BEDS. DO NOT BURY PLANT CROWNS.
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TURF AND HYDROSEED LEGEND

SYMBOL	DESCRIPTION	REMARKS	WUCOLS
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GREEN BUILDING NOTES:

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6. I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.

5/27/2020
JANE ADRIAN, LANDSCAPE ARCHITECT DATE

7. I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLANS.

5/27/2020
JANE ADRIAN, LANDSCAPE ARCHITECT DATE

TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
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Ri	RHUS INTEGRIFOLIA	LEMONADE BERRY	5 GAL	37	LOW	STAKE PER DETAIL.
Sn	SAMBUCUS NIGRA SSP CERULEA	BLUE ELDERBERRY	5 GAL	17	LOW	STAKE PER DETAIL.

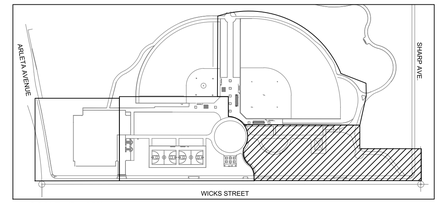
-----#----- HYDROZONE - REFER TO WATER EFFICIENT LANDSCAPE WORKSHEET, SHEET L705.

BUREAU OF ENGINEERING
OFFICIAL RECORD

MATCHLINE: SEE L703
MATCHLINE: SEE L703
MATCHLINE: SEE L702
MATCHLINE: SEE L702
MULCH PLANTING AREA PER LANDSCAPE CONSTRUCTION NOTES, TYP.
SHARP AVE.
WICKS STREET

0 10' 20' 40'
SCALE: 1" = 20'

KEY MAP:



SCALE: 1" = 250'

DIGALERT
Call Toll Free 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert of Southern California

PROVISION DATES: (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/5/2021 2:37 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L701 - L70X_PLANTING.DWG

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
CITY OF LOS ANGELES
ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
JANE M. ADRIAN
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

LANDSCAPE ARCHITECT - JANE ADRIAN	LIC. NO.: 3940	04/21/2021	
DESIGNED BY: GREG MOESER		04/21/2021	
DRAWN BY: GREG MOESER		04/21/2021	
CHECKED BY: RICHARD FISHER		04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021	

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLANTING PLAN SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L704
SHEET 53 OF SHEETS 74

PLOTTED: 8/25/2021 8:35 AM

WATER EFFICIENT LANDSCAPE WORKSHEET

Reference Evapotranspiration (ETo): 52

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
ZONE 1 - low water mixed shrub/tree planting	0.2	overhead spray/ rotor	0.75	0.267	72,986.00	19,462.93	627,484.97
ZONE 3 - moderate water mixed shrub/tree planting	0.5	spray bubbler	0.75	0.667	172.00	114.67	3,696.85
				Totals	73,158.00	19,577.60	
Special Landscape Areas							
ZONE 2 - turf areas - recreation				1	133,767.00	133,767.00	4,312,648.08
				1			-
				1			-
				Totals	133,767.00	133,767.00	
						ETWU Total	4,943,829.90
						Maximum Allowed Water Allowance (MAWA)	5,374,024.34

[a] Hydrozone #/Planting Description
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] Irrigation Method
overhead spray or drip

[c] Irrigation Efficiency
0.75 for spray head
0.81 for drip

[d] ETWU **(Annual Gallons Required) =** *Eto x 0.62 x ETAF x Area*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] MAWA (Annual Gallons Allowed) = *(Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

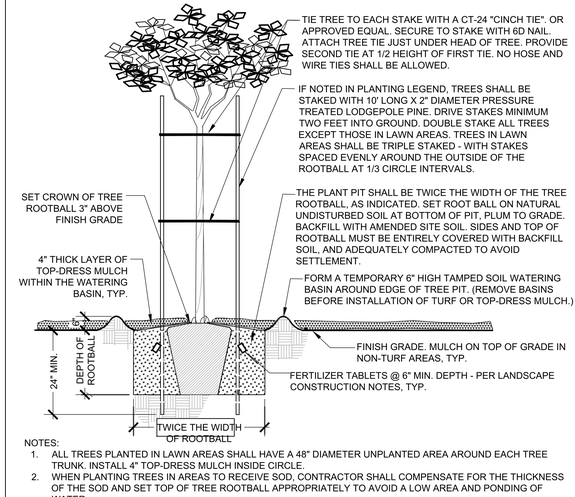
Regular Landscape Areas

Total ETAF x Area	19577.60
Total Area	73158.00
Average ETAF	**0.27**

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

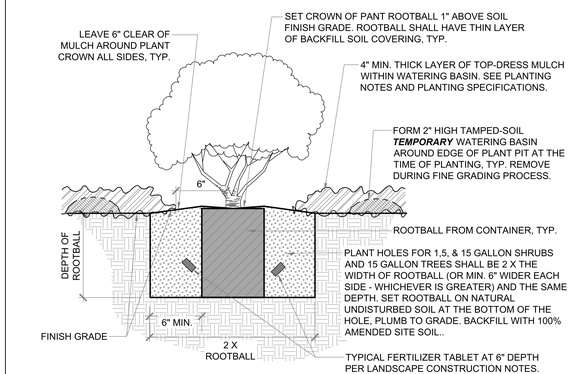
All Landscape Areas

Total ETAF x Area	153344.60
Total Area	206925.00
Sitewide ETAF	**0.74**



NOTES:
1. ALL TREES PLANTED IN LAWN AREAS SHALL HAVE A 48" DIAMETER UNPLANTED AREA AROUND EACH TREE TRUNK. INSTALL 4" TOP-DRESS MULCH INSIDE CIRCLE.
2. WHEN PLANTING TREES IN AREAS TO RECEIVE SOD, CONTRACTOR SHALL COMPENSATE FOR THE THICKNESS OF THE SOD AND SET TOP OF TREE ROOTBALL APPROPRIATELY TO AVOID A LOW AREA AND PONDING OF WATER.

J13 | TREE PLANTING AND STAKING
N.T.S. | BOE VERSION DEC/19 | RP DETAIL L2000



SECTION

NOTES:
1. PLANTING FINISH GRADE SHALL BE DEFINED AS TOP OF SOIL.
2. IN ALL CASES THE PLANT ROOTBALL SHALL BE COMPLETELY COVERED WITH BACKFILL SOIL - NO PORTION OF THE ROOTBALL SHALL BE LEFT EXPOSED TO AIR OR SUNLIGHT ***BEFORE APPLICATION OF MULCH***.
3. DELETE FERTILIZER TABLETS FOR CERTAIN CALIF. NATIVE PLANTS - SEE PLANTING LEGEND.

E13 | SHRUB PLANTING
N.T.S. | BOE VERSION OCT/19 | RP DETAIL L2030

BUREAU OF ENGINEERING
OFFICIAL RECORD

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CITY OF LOS ANGELES ENGINEERING

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT: JANE ADRIAN — LIC. NO.: 3940 — DATE: 04/21/2021
ARCHITECTURAL DIVISION
DESIGNED BY: GREG MOESER — 04/21/2021
DRAWN BY: GREG MOESER — 04/21/2021
CHECKED BY: RICHARD FISHER — 04/21/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT — 08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLANTING DETAILS/MWELO WORKSHEET
SHEET 4

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L705
SHEET 54 OF SHEETS 74

PLOTTED: 8/25/2021 8:35 AM

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SHEET ISSUE DATE: 8/5/2021 2:37 PM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L701 - L70X_PLANTING.DWG

RETROPLOTTER (DESIGN STAGE ONLY)

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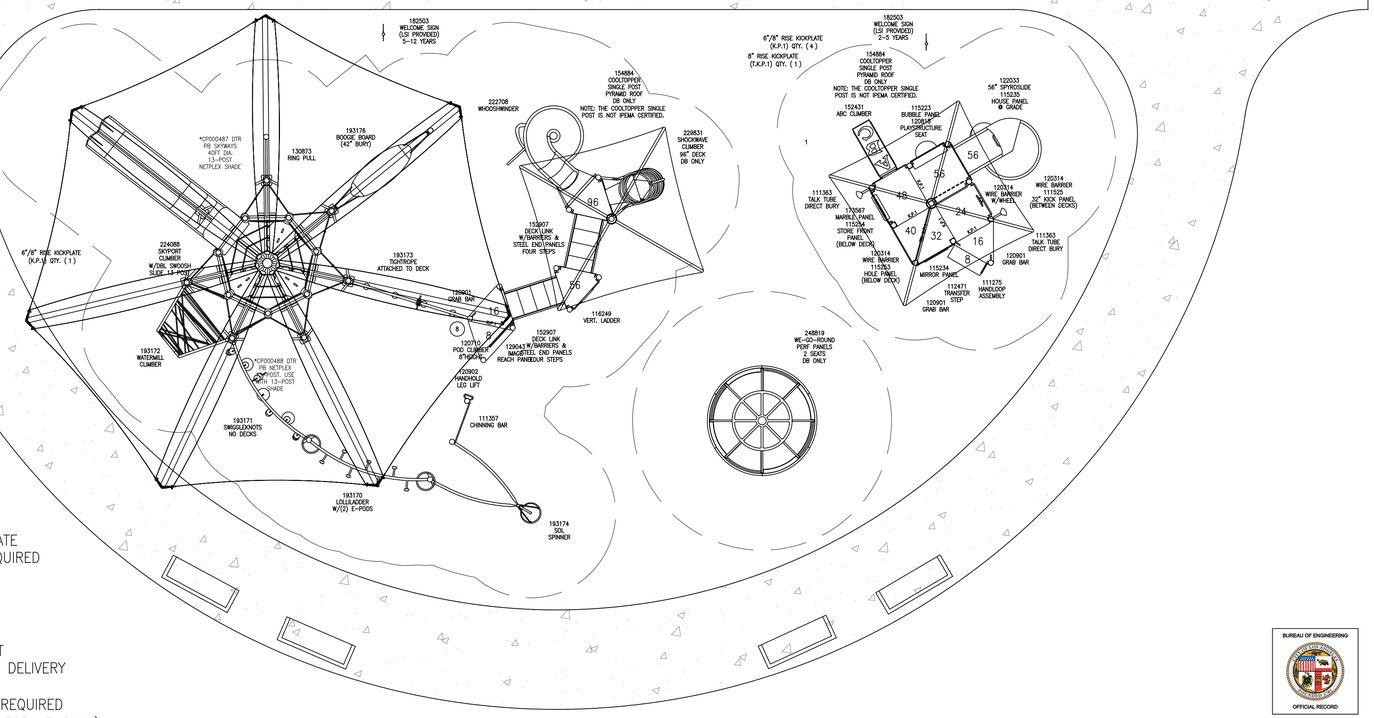
SHEET ISSUE DATE: 8/9/2021 9:13 AM
FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L8XX_DETAILS.DWG

PLAYBOOSTER® (5-12 years)
Max Fall Height: 96 inches



PLAYBOOSTER® (2-5 years)
Max Fall Height: 56 inches

THIS DRAWING HAS A SKYWAYS SHADE ON IT, A SEPARATE FREIGHT QUOTE FROM DALLAS SKYWAYS FACILITY IS REQUIRED

SKYWAYS SHADE NOTES:
BUILDING CODE IBC 2015
WIND LOAD OF 105 MPH
160 MPH WIND LOAD FRAME ONLY–NO FABRIC
SNOW LOAD OF 5 PSF–DOES NOT INCLUDE SNOW DRIFT
PROPER ACCESS TO SITE FOR MATERIALS & EQUIPMENT DELIVERY
STANDARD COLOR FABRIC
PRICE INCLUDES ANCHOR BOLTS (NON–GALVANIZED) IF REQUIRED
PRICE INCLUDES GENERIC SEAL DRAWINGS (ELECTRONIC FORMAT ONLY)
PRICE INCLUDES ZINC RICH PRIMER
USE OR SALES TAX NOT INCLUDED
INSTALLATION NOT INCLUDED
ALL COMPONENTS TO BE SHIPPED AT THE SAME TIME

2–5 AGE

TOTAL ELEVATED PLAY COMPONENTS	5		
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY RAMP	0	REQUIRED	0
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY TRANSFER	5	REQUIRED	3
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS SHOWN	4	REQUIRED	2
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS	4	REQUIRED	4

Estimated manufacturing time:
6 weeks from the time of
LSI order acceptance, or receipt of
SkyWays release of fabrication
form if applicable.

5–12 AGE

TOTAL ELEVATED PLAY COMPONENTS	7		
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY RAMP	0	REQUIRED	0
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY TRANSFER	5	REQUIRED	4
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS SHOWN	9	REQUIRED	2
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS	9	REQUIRED	9

SCALE IN FEET:
0' 5' 10' 20'

NORTH

Sheldon Arleta Park Phase One –
City of Los Angeles
City of Los Angeles, Ca

RecWest
Outdoor Products
Mike Bennett

SYSTEM TYPE:
PlayBooster

DRAWING #:
1142371–01–02

ISO 14001:2015 CERTIFIED
ISO 9001:2015 Certified

landscape structures

IPEMA CERTIFIED ASTM F1487
The play components identified on this plan are IPEMA certified. (Unless model number is preceded with *) The use and layout of these components conform to the requirements of ASTM F1487. To verify product certification, visit www.ipema.org

THIS PLAY AREA & PLAY EQUIPMENT IS DESIGNED FOR AGES 2–12 YEARS UNLESS OTHERWISE NOTED ON PLAN.

IT IS THE MANUFACTURERS OPINION THAT THIS PLAY AREA DOES CONFORM TO THE A.D.A. ACCESSIBILITY STANDARDS, ASSUMING AN ACCESSIBLE PROTECTIVE SURFACING IS PROVIDED, AS INDICATED, OR WITHIN THE ENTIRE USE ZONE.

THIS CONCEPTUAL PLAN WAS BASED ON INFORMATION AVAILABLE TO US. PRIOR TO CONSTRUCTION, DETAILED SITE INFORMATION INCLUDING SITE DIMENSIONS, TOPOGRAPHY EXISTING UTILITIES, SOIL CONDITIONS, AND DRAINAGE SOLUTIONS SHOULD BE OBTAINED, EVALUATED, & UTILIZED IN THE FINAL DESIGN. PLEASE VERIFY ALL DIMENSIONS OF PLAY AREA, SIZE, ORIENTATION, AND LOCATION OF ALL EXISTING UTILITIES, EQUIPMENT, AND SITE FURNISHINGS PRIOR TO ORDERING. SLIDES SHOULD NOT FACE THE HOT AFTERNOON SUN.

CHOOSE A PROTECTIVE SURFACING MATERIAL THAT HAS A CRITICAL HEIGHT VALUE TO MEET THE MAXIMUM FALL HEIGHT FOR THE EQUIPMENT (REF. ASTM F1487 STANDARD CONSUMER SAFETY PERFORMANCE SPECIFICATION FOR PLAYGROUND EQUIPMENT FOR PUBLIC USE, SECTION 8 CURRENT REVISION). THE SUBSURFACE MUST BE WELL DRAINED. IF THE SOIL DOES NOT DRAIN NATURALLY IT MUST BE TILED OR SLOPED 1/8" TO 1/4" PER FOOT TO A STORM SEWER OR A "FRENCH DRAIN".

AREA OF
ACCESSIBLE/PROTECTIVE
SURFACING
(POURED–IN–PLACE SUGGESTED)
(3,585 SF)

DESIGNED BY:
CBA

COPYRIGHT: 4/1/21
LANDSCAPE STRUCTURES, INC.
601 7th STREET SOUTH – P.O. BOX 198
DELANO, MINNESOTA 55328
PH: 1–800–328–0035 FAX: 1–763–972–6091

Date	Previous Drawing #	Initials
1/13/20	1142371–01–01	CBA

BUREAU OF ENGINEERING
OFFICIAL RECORD

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

JANE M. ADRIAN
LANDSCAPE ARCHITECT
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

	DATE:
LIC. NO.: 3940	04/21/2021
ARCHITECTURAL DIVISION	04/21/2021
LANDSCAPE ARCHITECT: JANE ADRIAN	04/21/2021
DESIGNED BY: GREG MOESER	04/21/2021
DRAWN BY: GREG MOESER	04/21/2021
CHECKED BY: RICHARD FISHER	08/05/2021
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLAYGROUND EQUIPMENT
PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO.
E170163A
PLAN FILE NO.
DRAWING NO.
L801
SHEET 55 OF SHEETS 74

PLOTTED: 8/25/2021 8:44 AM

FOR REFERENCE ONLY. PLAYGROUND EQUIPMENT TO BE PROVIDED BY OTHERS, NOT IN SCOPE. SEE CONSTRUCTION/GRADING PLANS FOR ADDITIONAL INFORMATION

REVISION DATES: (DESIGN STAGE ONLY)

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T:\LB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/9/2021 9:13 AM FILE PATH: Q:\IN-HOUSE-DESIGNS\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L8XX_DETAILS.DWG

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PROJECT NAME: SHELDON ARLETA PARK

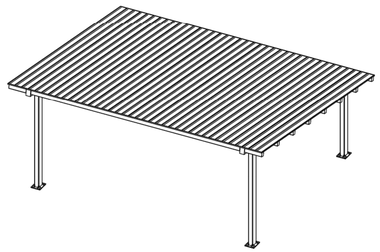
PROJECT LOCATION: LOS ANGELES, CA

BUILDING TYPE: MSX 32X38

ROOF TYPE: MULTI-RIB

BUILDING NUMBER: 67706

ORDER NUMBER: P11399



DRAWING LIST:

SHEET NUMBER	DRAWING DESCRIPTION
CS	COVER SHEET
1	ARCHITECTURAL ELEVATIONS
2-2.1	ANCHOR AND FOOTING LAYOUT / DETAILS
3	STRUCTURAL FRAMING PLAN
4-4.1	FRAME CONNECTION DETAILS
5-5.1	ROOF LAYOUT
6-6.1	ROOF CONNECTION DETAILS

MANUFACTURER NOTES:

MATERIALS:

DESCRIPTION	ASTM DESIGNATION
TUBE STEEL	A500 (GRADE B)
SCHEDULE PIPE	A53 (GRADE B)
RMT PIPE	A519
LIGHT GAGE COLD FORMED	A1003 (GRADE 50)
STRUCTURAL STEEL PLATE	A36
ROOF PANELS (STEEL)	A653
ANCHOR BOLTS	SEE SHEET 2.1

GENERAL NOTES:
UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20' SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE. IF THAT SEPARATION DOES NOT EXIST, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL.

ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY CERTIFIED WELDERS AND CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED.

PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION.
REFER TO THE SHIPPING BILL OF MATERIALS AND FINAL INSTALLATION INSTRUCTIONS INCLUDED WITH THE STRUCTURE FOR POSSIBLE SUBSTITUTIONS AND IMPROVEMENTS.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT ELECTRIC WIRING, IF REQUIRED, BE RUN THROUGH THE STRUCTURAL MEMBERS BEFORE THE BUILDING IS ERECTED.

FABRICATOR APPROVALS:
CITY OF PHOENIX, AZ APPROVED FABRICATOR #C08-2010
CITY OF LOS ANGELES, CA APPROVED FABRICATOR #1596
CITY OF RIVERSIDE, CA APPROVED FABRICATOR #SP06-0033
CITY OF HOUSTON, TX APPROVED FABRICATOR #470
CLARK COUNTY, NV APPROVED FABRICATOR #264
STATE OF UTAH APPROVED FABRICATOR 02008-14

CERTIFICATES:
MIAMI-DADE COUNTY CERTIFICATE OF COMPETENCY NO. 19-0806.05
PCI (POWDER COATING INSTITUTE) 4000 CERTIFIED

DESIGN CRITERIA:

GENERAL:
2019 CALIFORNIA BUILDING CODE
RISK CATEGORY: II

DEAD LOAD:
ROOF DEAD LOAD: 2 PSF
FRAME DEAD LOAD: SELF WEIGHT

LIVE LOAD:
ROOF LIVE LOAD: 20 PSF

SNOW DESIGN DATA:
GROUND SNOW LOAD (Pg): 5 PSF
FLAT ROOF SNOW LOAD (Pf): 5 PSF
SNOW EXPOSURE FACTOR (Ce): 1.0
SNOW LOAD IMPORTANCE FACTOR (Is): 1.0
THERMAL FACTOR (Ct): 1.2

WIND DESIGN DATA:
BASIC WIND SPEED (V): 95 MPH
GUST EFFECT FACTOR (G): 0.85
INTERNAL PRESSURE COEFFICIENT (GCpi): 0
WIND EXPOSURE: C

SEISMIC DESIGN DATA:
STEEL ORDINARY CANTILEVER COLUMN SYSTEMS
SEISMIC IMPORTANCE FACTOR (Ie): 1.0
SEISMIC DESIGN CATEGORY: D
SEISMIC SITE CLASS: D DEFAULT
SEE CALCULATIONS FOR ADDITIONAL DATA

ADDITIONAL CRITERIA:
NONE

Christopher Evans 2020.06.29 17:35:55 -04'00'

PROFESSIONAL ENGINEER CHRISTOPHER M. EVANS C78816 CIVIL STATE OF CALIFORNIA

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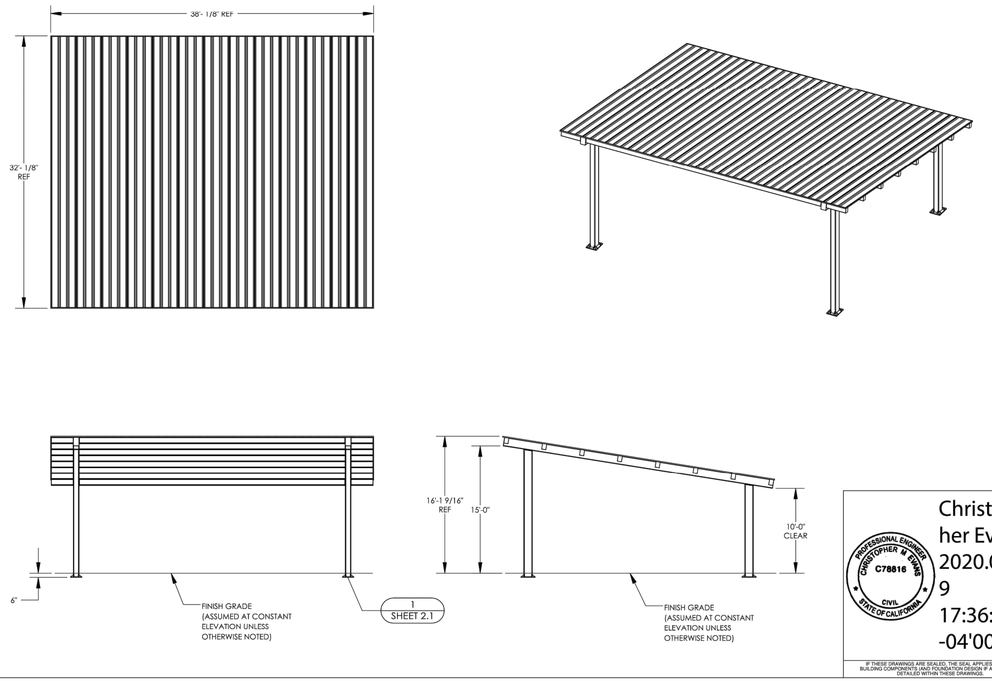
PRINT DATE: 6/26/2020 | SCALE: 1:108 | DRAWN BY: clove.spell | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO: P11399 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: COVER SHEET
SHEET: CS



Christopher Evans 2020.06.29 17:36:06 -04'00'

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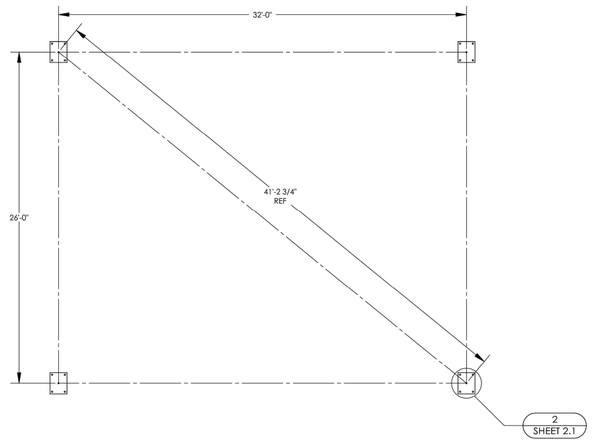
PRINT DATE: 6/26/2020 | SCALE: 1:96 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ARCHITECTURAL ELEVATIONS
SHEET: 1

SHADE STRUCTURE UNDER SEPARATE PERMIT. CITY TO PROVIDE CONTRACTOR WITH RTI PLANS/CALCS TO PULL PERMIT.

ANCHOR AND FOOTING LAYOUT NOTES:

1. ANCHORS MUST BE CENTERED IN FOOTINGS
2. FOOTINGS MUST BE TURNED TO ALIGN WITH COLUMN AND TRUSS CENTERLINE.



Christopher Evans 2020.06.29 17:36:18 -04'00'

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PRINT DATE: 6/26/2020 | SCALE: 1:54 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ANCHOR AND FOOTING LAYOUT
SHEET: 2

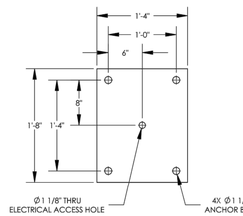
FOUNDATION NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE BUILDING CODE, AMERICAN CONCRETE INSTITUTE, AND ALL APPLICABLE STATE AND LOCAL ORDINANCES AND REQUIREMENTS.
2. THE CONCRETE DESIGN IS BASED ON THE FOLLOWING PROPERTIES:
   - 28 DAY STRENGTH OF 4500 psi.
   - SLUMP OF 4" (+/-1").
3. THE FOOTING SHALL BEAR ON COMPETENT UNDISTURBED SOIL OR 95% COMPACTED FILL. IF SIGNS OF ORGANIC MATERIAL, UNCONTROLLED FILL, CLAY OR SILT, HIGH WATER TABLE OR OTHER POSSIBLE DETRIMENTAL CONDITIONS ARE FOUND, INSTALLATION OF THE FOUNDATION MUST BE DISCONTINUED AND A SOILS ENGINEER CONTACTED.
4. THE REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.
5. IF FOOTING DEPTH SHOWN DOES NOT MEET LOCAL FROST REQUIREMENTS, THE DRILLED PIER FOOTING MAY BE EXTENDED. EXTEND VERTICAL BARS AS REQUIRED AND PROVIDE ADDITIONAL TIES TO MEET SPACING REQUIREMENTS AS SHOWN. IF LOCAL FROST DEPTH REQUIREMENTS ARE NOT MET AND NO DRILLED PIER FOOTING OPTION IS GIVEN, CONTACT ENGINEERING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCAL FROST LINE DEPTH BELOW GRADE PRIOR TO CONSTRUCTION.

THE FOUNDATION DESIGN SHOWN ON THESE DRAWINGS IS NOT SITE SPECIFIC, BUT BASED ON THE PRESUMPTIVE ALLOWABLE FOUNDATION PRESSURES IN CHAPTER 18 OF THE BUILDING CODE (CLASS 5 SOIL). THE BUILDING OFFICIAL IN THE JURISDICTION IN WHICH THIS STRUCTURE IS LOCATED MAY REQUIRE A SITE SPECIFIC GEOTECHNICAL REPORT OR LETTER FROM A QUAUFIED LOCAL PROFESSIONAL ENGINEER ATTESTING TO WHETHER THE ACTUAL SITE CONDITIONS MEET THE ASSUMPTIONS IDENTIFIED ABOVE.

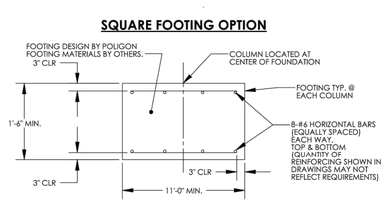
ANCHOR BOLT NOTES - EXTERNAL (ANCHOR BOLTS LOCATED OUTSIDE COLUMN):

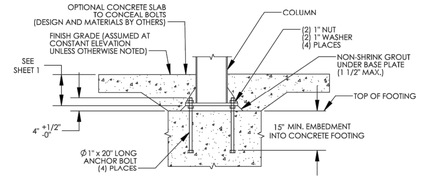
1. ANCHOR BOLTS SHALL BE ASTM F1554 (GRADE 55) MATERIAL UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS SHALL BE EITHER "HEADED" OR "THREADED WITH NUT" AS DEFINED IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL (PART 14), 13th EDITION.
3. HOOKED ANCHOR BOLTS ARE NOT ACCEPTABLE.
4. ACCURATE ANCHOR BOLT PLACEMENT IS CRITICAL. TO ENSURE THE ANCHOR BOLT LAYOUT MEETS THE DIMENSIONS REQUIRED ON THE DRAWINGS, SURVEY (OR MEASURE) THE LOCATION OF ALL ANCHOR BOLTS PRIOR TO POURING THE FOOTINGS. AN ADDITIONAL SURVEY (OR MEASUREMENT) SHOULD BE MADE AFTER THE FOOTINGS ARE POURED TO CONFIRM THE ANCHOR BOLTS DID NOT SHIFT DURING THE CONCRETE POUR.
5. THE MANUFACTURER STRONGLY RECOMMENDS USING ANCHOR BOLT TEMPLATES BECAUSE THEY SIGNIFICANTLY IMPROVE THE ACCURACY OF ANCHOR BOLT PLACEMENT. AN ANCHOR BOLT TEMPLATE IS PROVIDED WITH ANY ANCHOR BOLT KIT PURCHASED.
6. IF OUTSIDE CONSULTING ENGINEERS ARE DESIGNING THE FOUNDATIONS FOR THIS STRUCTURE, THEY MUST REFER TO THE MANUFACTURER'S CALCULATIONS FOR MINIMUM CONCRETE PROPERTIES (COMPRESSIVE STRENGTH, EDGE DISTANCE, ETC.) REQUIRED FOR THE ANCHOR BOLT DESIGN.
7. ELECTRICAL ACCESS HOLE IS ALWAYS LOCATED IN THE COLUMN BASE PLATE AS SHOWN.
8. GROUT UNDER BASEPLATES SHALL BE NON-METALLIC, NON-SHRINK GROUT WITH MINIMUM f'c=6500 PSI.
9. THE CALCULATIONS FOR THIS STRUCTURE ASSUME A FIXED COLUMN BASE.



2 / 2 ANCHOR BOLT PATTERN
BASE PLATE THICKNESS: 1"

SQUARE FOOTING OPTION





1 / 1 ANCHOR BOLT DETAIL

Christopher Evans 2020.06.29 17:36:28 -04'00'

PROFESSIONAL ENGINEER CHRISTOPHER M. EVANS C78816 CIVIL STATE OF CALIFORNIA

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PRINT DATE: 6/26/2020 | SCALE: 1:12 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ANCHOR AND FOOTING DETAILS
SHEET: 2.1

BUREAU OF ENGINEERING
OFFICIAL RECORD

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
BUREAU OF ENGINEERING
CITY OF LOS ANGELES
ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119
RAP FACILITY NO. 837

LANDSCAPE ARCHITECT ★ RICHARD FISHER ★ 3940 ★ 10-31-21 ★ STATE OF CALIFORNIA

CITY ENGINEER	DATE:	
LIC. NO.: 3940	04/21/2021	
LANDSCAPE ARCHITECT : JANE ADRIAN ARCHITECTURAL DIVISION	04/21/2021	
DESIGNED BY: GREG MOESER	04/21/2021	
DRAWN BY: GREG MOESER	04/21/2021	
CHECKED BY: RICHARD FISHER	04/21/2021	
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021	

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: SHADE STRUCTURE SHEET 1

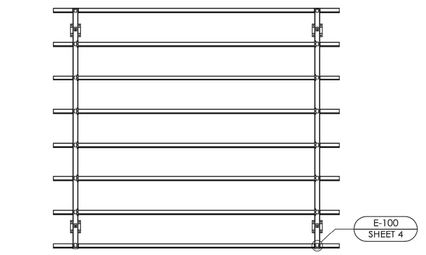
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

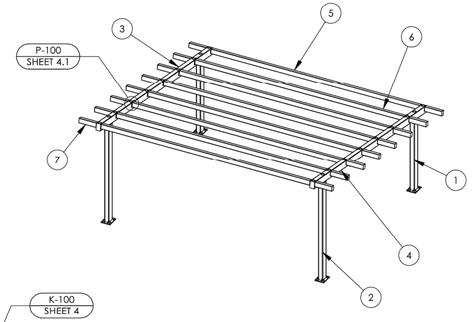
ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

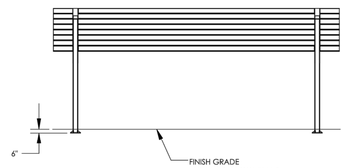
Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

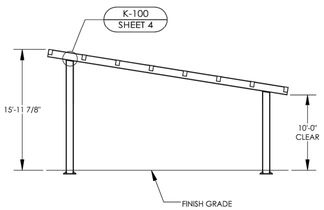
WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L802
SHEET 56 OF SHEETS 74

PLOTTED: 8/25/2021 8:44 AM









ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL	WEIGHT
7	16	-	TAIL ASM	HSS8X6X3/16	49.81
6	6	-	PURLIN ASM	HSS8X6X3/16	538.50
5	2	-	EAVE ASM	HSS8X6X3/16	539.40
4	1	-	TRUSS 2 ASM	HSS12X8X1/4	1056.68
3	1	-	TRUSS 1 ASM	HSS12X8X1/4	1056.60
2	2	-	COLUMN 2 ASM	HSS12X8X3/8	811.73
1	2	-	COLUMN 1 ASM	HSS12X8X3/8	616.31

Christopher Evans 2020.06.29 17:36:37 -04'00'

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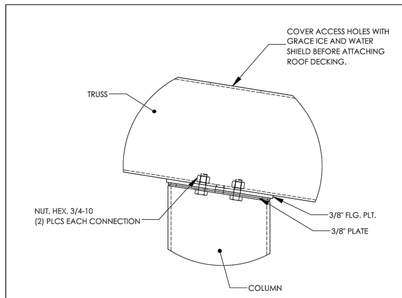
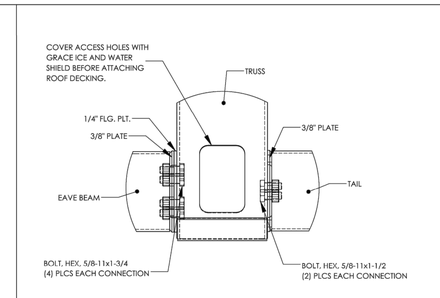
PRINT DATE: 6/26/2020 | SCALE: 1:108 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO.: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: STRUCTURAL FRAMING PLAN
SHEET 3



COLUMN CONNECTIONS | K-100



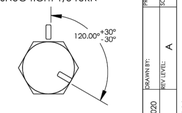
EAVE BEAM CONNECTION | E-100

TURN-OF-NUT PRETENSIONING METHOD:
THESE STEPS ILLUSTRATE THE REQUIREMENTS OUTLINED IN THE AISC SPECIFICATION. THE ROTATION INDICATED IS ACCURATE FOR MOST BOLT DIAMETERS AND LENGTHS BUT IT IS THE RESPONSIBILITY OF THE INSTALLER TO MEET AISC REQUIREMENTS.

STEP ONE:
AFTER SNUG TIGHT,
MATCH MARK PLATE



STEP TWO:
THEN TURN BOLT/NUT PAST
SNUG TIGHT 1/3 TURN



CONNECTION NOTES:
1. HIGH STRENGTH BOLTS SHALL BE ASTM F3125 (A325, TYPE 1) MATERIAL.
2. HIGH STRENGTH NUTS SHALL BE ASTM A563 (GRADE DH) MATERIAL.
3. HIGH STRENGTH WASHERS SHALL CONFORM TO ASTM F436.
4. ALL BOLTS TO BE INSTALLED BY THE "TURN -OF-NUT" PRETENSIONING METHOD AS SPECIFIED IN THE LATEST EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", (SEE ILLUSTRATION). A325 BOLTS MAY BE INSTALLED WITHOUT WASHERS WHEN TIGHTENED BY THE "TURN-OF-NUT" PRETENSIONING METHOD. IT IS THE RESPONSIBILITY OF THE ERECTOR TO ENSURE PROPER TIGHTNESS. THIS METHOD IS ONLY REQUIRED ON A325 BOLTS. ANCHOR BOLTS ONLY NEED TO BE SNUG TIGHT.
5. LOCAL JURISDICTIONS MAY REQUIRE AN INSPECTOR TO BE PRESENT TO WITNESS HARDWARE INSTALLATION AND INDEPENDENT TESTING. INSPECTION REQUIREMENTS SHOULD BE VERIFIED BY INSTALLER PRIOR TO STEEL ERECTION.
6. ERECTION OF THE FRAMING MEMBERS WILL REQUIRE THE MAIN COLUMNS TO BE PLUMB SQUARE AND TIGHTENED TO THE TRUSSES AND/OR TENSION MEMBERS BEFORE INSTALLING THE PURLINS. PURLINS, IF REQUIRED, MUST BE PARALLEL TO THE EAVE BEAMS AND TENSION MEMBERS OR AS SHOWN IN FRAMING PLAN.
7. PRIOR TO THE ERECTION OF SHELTER COMPONENTS, IT IS RECOMMENDED TO CHASE AND TAP STRUCTURAL HARDWARE.
8. ALL BOLTS MUST BE LUBRICATED WITH WAX TO ASSIST IN PROPER TIGHTENING. TO LUBRICATE A BOLT IN THE FIELD, APPLY THE WAX STICK DOWN THE LENGTH OF THE BOLT'S THREADS.
9. TO PREVENT RUST STAINING OF FINISH, ALL METAL SHAVINGS MUST BE REMOVED AFTER INSTALLATION. ENSURE NO SHAVING ARE TRAPPED BETWEEN MATING SURFACES.
10. TOUCH-UP PAINT MUST BE APPLIED TO ALL EXPOSED FASTENERS. PERIODIC TOUCH-UP AT THESE CONNECTIONS IS REQUIRED.

Christopher Evans 2020.06.29 17:36:55 -04'00'

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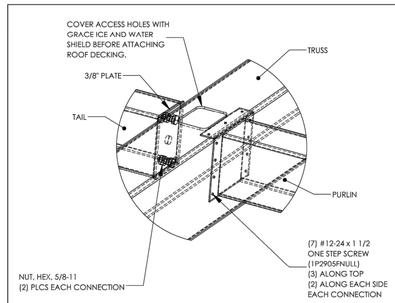
PRINT DATE: 6/26/2020 | SCALE: 1:4 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO.: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: FRAME CONNECTION DETAILS
SHEET 4

SHADE STRUCTURE UNDER SEPARATE PERMIT. CITY TO PROVIDE CONTRACTOR WITH RTI PLANS/CALCS TO PULL PERMIT.

BUREAU OF ENGINEERING
OFFICIAL RECORD



PURLIN CONNECTION | P-100

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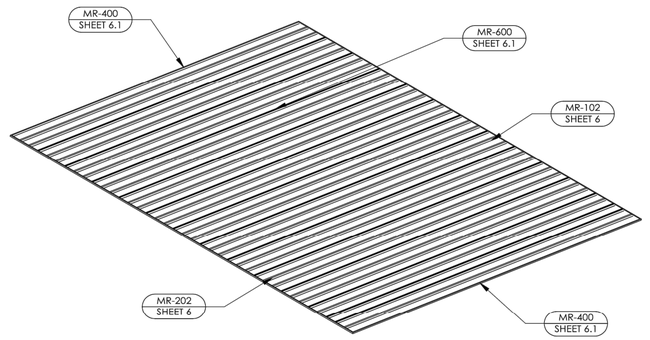
PRINT DATE: 6/26/2020 | SCALE: 1:4 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO.: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ROOF OVERVIEW
SHEET 4.1



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PRINT DATE: 6/26/2020 | SCALE: 1:64 | DRAWN BY: | REV LEVEL: A | CREATION DATE: 6/4/2020 | BUILDING NO.: 67706 | CAD MODEL: -P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ROOF OVERVIEW
SHEET 5

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

REVISION DESCRIPTION | NO. | DATE | BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

LANDSCAPE ARCHITECT
No. 3940
10-31-21
Renewal date
04-05-21
Date
JANE M. ADRIAN
STATE OF CALIFORNIA

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP CITY ENGINEER
BUREAU OF ENGINEERING
ARCHITECTURAL DIVISION

		LIC. NO.: 3940	DATE:
LANDSCAPE ARCHITECT:	JANE ADRIAN		04/21/2021
DESIGNED BY:	GREG MOESER		04/21/2021
DRAWN BY:	GREG MOESER		04/21/2021
CHECKED BY:	RICHARD FISHER		04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT		08/05/2021

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: SHADE STRUCTURE SHEET 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L803
SHEET 57 OF SHEETS 74

PLOTTED: 8/25/2021 8:44 AM

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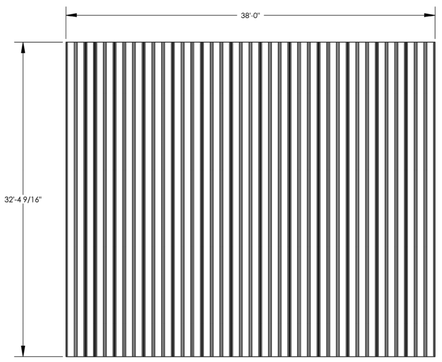
T:\LB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/9/2021 9:13 AM FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L8XX_DETAILS.DWG

REVISION DATES (DESIGN STAGE ONLY)



MULTI-RIB NOTES:

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE SYSTEMS. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. THE DETAILS MAY REQUIRE CHANGES OR REVISIONS DUE TO FIELD CONDITIONS.

IT SHALL BE THE RESPONSIBILITY OF THE ERECTOR TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE HIMSELF/HERSELF WITH ALL ERECTION INSTRUCTIONS BEFORE STARTING WORK.

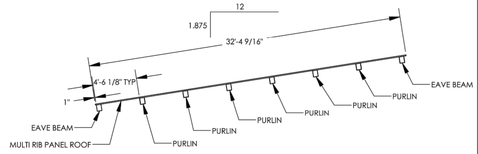
THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

FLASHING AND TRIM SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ANY EXPOSED FASTENERS EQUALLY SPACED FOR THE BEST APPEARANCE.

SEALANT SHALL BE FIELD APPLIED ON DRY, CLEAN SURFACES. SOME FIELD CUTTING AND FITTING OF PANELS AND FLASHING IS TO BE EXPECTED BY THE ERECTOR AND MINOR FIELD CORRECTIONS ARE A PART OF NORMAL ERECTION WORK.

WORKMANSHIP SHALL BE OF THE BEST INDUSTRY STANDARDS AND INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN.

METAL SHAVINGS FROM DRILLING OR INSTALLATION OF ROOF FASTENERS MUST BE CAREFULLY REMOVED FROM THE ROOF BY BRUSHING OR SWEEPING AT THE END OF EACH DAY DURING INSTALLATION. SHAVINGS LEFT ON THE ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH.



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PRINT DATE:	6/26/2020
SCALE:	1:84
DRAWN BY:	A
REV LEVEL:	
CREATION DATE:	6/4/2020
BUILDING NO.:	67706
CAD MODEL:	-P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ROOF LAYOUT
SHEET: **5.1**

Christopher Evans 2020.06.29 17:37:27 -04'00'

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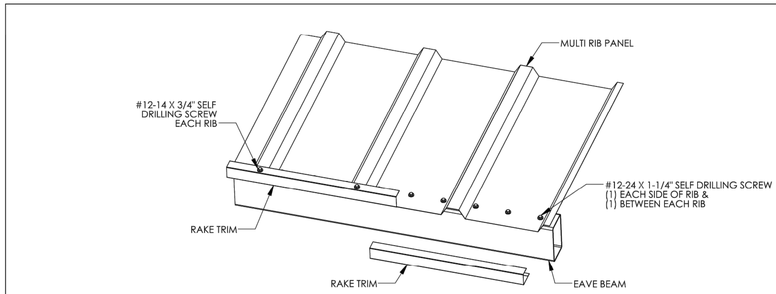
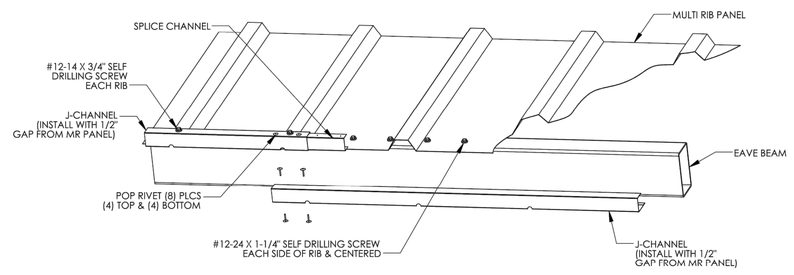


HIGHSIDE DETAIL (VIEWING FROM ABOVE) — MR-202



EAVE DETAIL — MR-102

PART DESCRIPTIONS:

#12-14x3/4" SELF DRILLING SCREW.

#12-14x1 1/4" SELF DRILLING SCREW.

1/8" POP RIVET.

NOTE:
ALL MATERIALS ARE CALLED OUT ON SHEETS 5.1.

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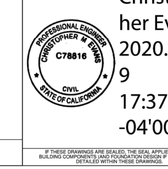
PRINT DATE:	6/26/2020
SCALE:	NTS
DRAWN BY:	A
REV LEVEL:	
CREATION DATE:	6/4/2020
BUILDING NO.:	67706
CAD MODEL:	-P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ROOF CONNECTION DETAILS
SHEET: **6**



Christopher Evans 2020.06.29 17:37:38 -04'00'

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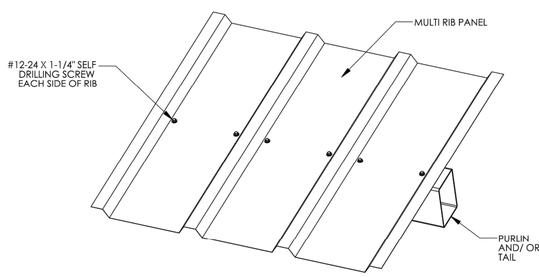
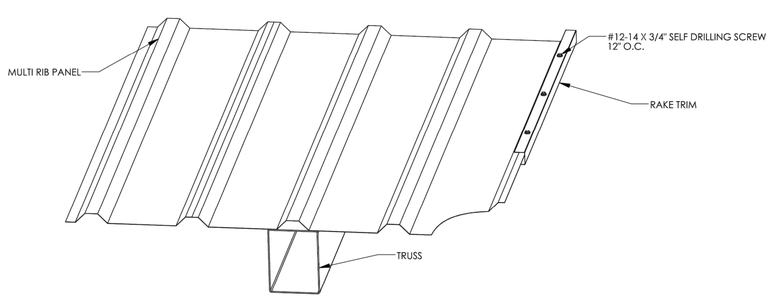
SHADE STRUCTURE UNDER SEPARATE PERMIT. CITY TO PROVIDE CONTRACTOR WITH RTI PLANS/CALCS TO PULL PERMIT.



PURLIN DETAIL — MR-600



RAKE DETAIL — MR-400

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PRINT DATE:	6/26/2020
SCALE:	NTS
DRAWN BY:	A
REV LEVEL:	
CREATION DATE:	6/4/2020
BUILDING NO.:	67706
CAD MODEL:	-P11399

PROJECT: SHELDON ARLETA PARK
PROJECT LOCATION: LOS ANGELES, CA
DRAWING: ROOF CONNECTION DETAILS
SHEET: **6.1**



Christopher Evans 2020.06.29 17:37:50 -04'00'

IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO BUILDING COMPONENTS (AND FOUNDATION DESIGN IF APPLICABLE) DETAILED WITHIN THESE DRAWINGS.

BUREAU OF ENGINEERING
OFFICIAL RECORD

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

LANDSCAPE ARCHITECT
RICHARD M. FISHER
No. 3940
10-31-21
Renewal Date
04-05-21
Date
STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

	NAME	DATE
LANDSCAPE ARCHITECT, LIC. NO.: 3940		DATE:
ARCHITECTURAL DIVISION		
DESIGNED BY:	GREG MOESER	04/21/2021
DRAWN BY:	GREG MOESER	04/21/2021
CHECKED BY:	RICHARD FISHER	04/21/2021
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	08/05/2021

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: SHADE STRUCTURE SHEET 3

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, SUN VALLEY, CA 91352

Project Status: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. L804
SHEET 58 OF SHEETS 74

PLOTTED: 8/25/2021 8:45 AM

REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 02/2013
SHEET ISSUE DATE: 8/9/2021 9:13 AM
FILE PATH: Q:\IN-HOUSE-DESIGN\SHELDON ARLETA\SHELDON ARLETA PH IIIC- PROP K COMPETITIVE GRANT\LANDSCAPE\DESIGN\WORKING_DRAWINGS\L8XX_DETAILS.DWG

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES:
   A. 2020 CITY OF LOS ANGELES BUILDING CODE.
   B. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION "SSPWC", ADOPTED BY THE BOARD OF PUBLIC WORKS OF THE CITY OF LOS ANGELES AS MODIFIED BY THE LATEST ISSUE OF THE BROWN BOOK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO STARTING ANY WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE COMMENCING WORK.
3. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF SCALED DIMENSIONS ON ANY PLAN. ALL DIMENSIONS SHALL BE AS DESIGNATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AT THE SITE PRIOR TO COMMENCING WORK AND/OR FABRICATION AND PROCUREMENT OF ANY ITEM.
4. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NOTES AND DETAILS ON DRAWINGS AND GENERAL NOTES AND TYPICAL DETAILS ARE IN CONFLICT WITH THE CONTRACT SPECIFICATIONS, THE MOST STRINGENT SHALL APPLY. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
5. A STAMPED SET OF PLANS AND SPECIFICATIONS SHALL BE KEPT AT THE JOBSITE AT ALL TIMES. THE CONTRACTOR SHALL ALSO MAINTAIN A SEPARATE FULL SIZE SET AND UPDATE WITH RECORD (I.E. AS-BUILT) INFORMATION. BOTH SETS SHALL BE MADE AVAILABLE TO THE INSPECTOR, BUILDING OFFICIAL OR CITY ENGINEER AT ALL TIMES.
6. MANUFACTURED MATERIALS SHALL BE APROVED BY THE CITY ENGINEER PRIOR TO THEIR USE. ALL REQUIREMENTS OF THOSE APPROVALS SHALL BE FOLLOWED.
7. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS
8. PIPE SLEEVES, CONDUITS, DUCTS, INSERTS, AND OTHER SIMILAR EMBEDDED ITEMS SHALL BE IN PLACE PRIOR TO PLACEMENT OF CONCRETE.
9. NO PIPES, DUCTS, SLEEVES, OR OTHER MECHANICAL, PLUMBING, AND ELECTRICAL TRADE ITEMS SHALL PASS THROUGH STRUCTURAL MEMBERS UNLESS SHOWN ON THE THE STRUCTURAL PLANS OR APPROVED BY THE CITY ENGINEER OF RECORD.
10. SEWER AND UTILITY LINES ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO PLUMBING, ELECTRICAL AND CIVIL DRAWINGS FOR LOCATION. THE CONTRACTOR SHALL COORDINATE ALL SEWER AND UTILITY LINES WITH THE FOUNDATION DRAWINGS. THE CITY ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING FURTHER WITH THE WORK.
11. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED WORK. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL THE MEASURES NECESSARY TO PROTECT THE SAFETY OF THE STRUCTURE, EMPLOYEES, AND THE PUBLIC DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO THE BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION LOADING AND EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE CITY ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS AND DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM HIS/HER RESPONSIBLITIES FOR THE ABOVE ITEMS.
12. REVIEW OF SUBMITTAL WILL BE FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENTS. NOTED MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS OR DEPARTURES THEREFROM. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY FOR PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER.
13. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR PEDESTRIANS AND VEHICLES ADJACENT TO THE PROJECT SITE DURING CONSTRUCTION.
14. THE CONTRACTOR SHALL OBTAIN AND ARRANGE FOR ALL REQUIRED PERMITS AND INSPECTIONS.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615-60 OR EQUAL.
2. ALL BARS SHALL BE CLEAN OF LOOSE FLAKY RUST, GREASE OR OTHER MATERIALS LIKELY TO IMPAIR BOND.
3. ALL BENDS SHALL BE MADE COLD.
4. REINFORCING BARS SHALL BE SPLICED AND BENT IN STRICT ACCORDANCE WITH THE CRSI PUBLICATION AND DETAIL DRAWINGS. NO KINKS SHALL BE PERMITTED.
5. BARS SHOWN SPLICED SHALL BE CONTINUOUS AT ALL OTHER LOCATIONS. SPLICES IN ADJACENT BARS SHALL BE STAGGERED AT LEAST ONE SPLICE LENGTH. ALL DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THAT OF THE REINFORCING STEEL TO WHICH THEY ARE SPLICED.
6. PROVIDE DOWELS OF SAME SIZE AND NUMBER FROM ADJACENT POUR, BOTH VERTICALLY AND HORIZONTALLY TO MATCH TYPICAL REINFORCING SHOWN. LAPS SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND DETAILS.
7. ALL DOWELS SHALL BE CLEANED AFTER POUR AND CARE SHALL BE TAKEN SO AS NOT TO BEND DOWELS EXTENDING FROM CONCRETE PREVIOUSLY POURED.
8. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS NOTED OTHERWISE.
9. ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE OR APPLYING MORTAR OR GROUT.
10. SHOP DRAWINGS FOR REINFORCING STEEL SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
11. ALL REINFORCING SHALL BE ACCURATELY PLACED AND FIRMLY SUPPORTED AS REQUIRED BY THE ACI STANDARDS. REINFORCING SHALL HAVE THE FOLLOWING MINIMUM COVERAGE AND SHALL BE PLACED AS NEAR TO THE CONCRETE SURFACE AS THESE MINIMUMS WILL PERMIT UNLESS NOTED OR DETAILED OTHERWISE.
    - CONCRETE POURING AGAINST EARTH.....3"
    - FORMED CONCRETE IN CONTACT WITH EARTH OR WEATHER.....1-1/2"
    - SLABS, WALLS, JOISTS.....1-1/2"
    - BEAMS.....1-1/2"
    - COLUMNS (TO MAIN STEEL).....2"
12. BARS INTERRUPTED BY STRUCTURAL STEEL SHALL EXTEND TO WITHIN 1" OF THE STRUCTURAL STEEL FLANGE OR WEB AND HAVE A 90-DEGREE HOOK UNLESS NOTED OTHERWISE.

CONCRETE NOTES

1. CONCRETE SHALL CONFORM TO SECTION 201 OF THE SSPWC U.N.O.
2. ALL CEMENT SHALL CONFORM TO ASTM C-150, PORTLAND CEMENT TYPE V FOR CONCRETE IN CONTACT WITH SOIL AND TYPE I FOR TOPPING SLAB, U.N.O.
3. FINE AND COARSE AGGREGATE SHALL BE NONREACTIVE AND CONFORM TO ASTM C-33 AND SECTION 201-1.2.2 OF THE SSPWC.
4. UNLESS NOTED OTHERWISE, STRUCTURAL CONCRETE SHALL BE HARD ROCK - 145 LBS/ CU. FT. CONCRETE STRENGTH SHALL CONFORM TO THE FOLLOWING:
   FOOTINGS, SLABS AND CAISSONS.....560-C-3250
5. SUBMITTALS OF MIX DESIGN SHALL BE AS PER THE BUILDING CODE AND SHALL BE PREPARED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER, AND BE PROVIDED BY AN APPROVED LABORATORY. COPIES OF THE SUBMITTALS SHALL BE IN THE OFFICE OF THE BUILDING INSPECTOR, AT THE BATCH PLANT PRIOR TO BATCHING OF CONCRETE, AND AT THE JOB SITE PRIOR TO PLACING OF CONCRETE. MIX DESIGN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL OF THE PROJECT STRUCTURAL ENGINEER PRIOR TO PLACING OF CONCRETE.
6. CONTINUOUS INSPECTION OF CONCRETE BY A DEPUTY INSPECTOR IS REQUIRED FOR CONCRETE STRENGTHS OVER 2500 PSI - TO BE PROVIDED BY THE CITY.
7. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE 2020 EDITION OF THE LOS ANGELES CITY BUILDING CODE AND THE LATEST EDITION OF ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE - ACI 318, INCLUDING BAR BENDS AND HOOKS, UNLESS SPECIFICALY SHOWN ON THE DRAWINGS.
8. ANCHOR BOLTS, DOWELS, REINFORCING STEEL, INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE. CONCRETE BLOCKS SHALL ONLY BE USED TO SUPPORT REINFORCING OFF GROUND.
9. CONTRACTOR SHALL DETERMINE THE LOCATION OF CONSTRUCTION AND CONTRACTION JOINTS TO AVOID CRACKING IN THE CONCRETE ELEMENTS. THE LOCATION OF CONSTRUCTION AND CONTRACTION JOINTS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO POURING CONCRETE.
10. NOTIFY THE CITY ENGINEER 48 HOURS PRIOR TO ALL POURS.
11. ALL EXISTING CONCRETE SURFACES IN CONTACT WITH NEW CONCRETE AND ALL CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE MINIMUM.
12. ALL FOUNDATIONS AND PILES SHALL BE POURED AGAINST UNDISTURBED NATURAL SOIL, OR COMPACTED FILL.
13. ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4", OR RADIUSED TO 1/2" R.
14. ALL CONCRETE SHALL BE CURED IN ACCORDANCE WITH SECTION 303-1.10 OF THE SSPWC UNLESS OTHERWISE NOTED. THE CITY ENGINEER MUST FIRST APPROVE THE USE OF MEMBRANE CURING COMPOUNDS. IF APPROVED FOR USE, THE CONTRACTOR SHALL SUBMIT SAMPLES OF MATERIALS AND LOCATION OF USE FOR FINAL APPROVAL BY THE CITY ENGINEER.
15. BEFORE CONCRETE IS POURED, CHECK ALL TRADES TO INSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, EMBEDDED MATERIALS, ETC. RELATING TO THE WORK.
16. THE CONTRACTOR SHALL COORDINATE FOR CONTINUOUS INSPECTION OF ANCHOR BOLTS OR HEADED STUDS EMBEDDED IN CONCRETE PRIOR TO AND DURING THE PLACEMENT OF CONCRETE TO BE PROVIDED BY THE CITY.
17. ALL SLEEVES NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL BE LOCATED BY THE TRADES INVOLVED AND SHALL BE APPROVED BY THE CITY ENGINEER.
18. NO STAKE, STEEL OR WOOD WILL BE PERMITTED IN ANY CONCRETE POUR, UNLESS OTHERWISE SHOWN ON THE PLANS TO REMAIN. SUSPEND FORMS FROM ABOVE THE POUR.
19. NO FOUNDATIONS OR SLABS-ON-GRADE SUPPORTED IN NEW COMPACTED FILL SHALL BE POURED UNTIL THE COMPACTION REPORT IS SUBMITTED AND APPROVED BY THE GRADING DIVISION OF LADBS.
20. NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAYS STRENGTH OF 4,000 PSI. CONTRACTOR TO SUBMIT MIX DESIGN FOR APPROVAL TO THE CITY ENGINEER, PRIOR TO PLACEMENT.
22. ALL CAST-IN-PLACE ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GR. 36 OR EQUAL, UNO.

MASONRY

1. CONCRETE MASONRY (CMU) SHALL BE MEDIUM-WEIGHT UNITS FOR BUILDING AND NORMAL WEIGHT UNIT FOR RETAINING WALLS, USE OPEN END BLOCKS AT VERTICAL REINFORCING BARS AND BOND BEAM BLOCKS AT HORIZONTAL BARS.
2. COMPRESSIVE STRENGTH OF MASONRY (f'm) AT 28 DAYS SHALL BE 1500 PSI (U.N.O. ON DRAWINGS), AND TESTED IN ACCORDANCE WITH LABC SECTION 2105.3 (CONT. INSPECTION REQ'D).
3. UNITS SHALL BE LAID IN RUNNING BOND U.N.O.
4. ALL CELLS AND SPACES SHALL BE GROUTED SOLID U.N.O. COMPLY WITH THE REQUIREMENTS OF LABC SECTION 2104.
5. ALL BARS SHALL HAVE A MINIMUM DISTANCE CLEAR TO THE MASONRY SURFACE OF ONE BAR DIAMETER OR ONE-HALF INCH, WHICHEVER IS GREATER. BOLTS AND EMBEDS SHALL HAVE A MINIMUM OF 1 INCH GROUT COVER ALL AROUND.
6. VERTICAL REINFORCING IN WALLS SHALL BE ON THE WALL CENTER LINE U.N.O.
7. GROUT SHALL BE PER LABC SECTION 2103 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
8. MORTAR SHALL BE TYPE "S" PER SECTION 2103 OF L.A. CITY BUILDING CODE.
9. REFER TO GENERAL NOTES UNDER "REINFORCING".

MASONRY (CONTINUED)

10. CONSTRUCTION SHALL COMPLY WITH SECTION 3 OF ACI 530.1-11.
    A. REINFORCEMENT SHALL BE SUPPORTED TO PREVENT DISPLACEMENTS BEYOND TOLERANCES ALLOWED BY 3.4 OF ACI 530.1 PRIOR TO GROUTING; (3.4B OF ACI 530.1-11)
    B. CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE OF MASONRY FOR ALL GROUT POUR HEIGHT EXCEEDING 5'-4"; (3.2F OF ACI 530.1-11)
    C. HIGH LIFT GROUTING IS SUBJECT TO THE FOLLOWING: 1. APPROVAL BY THE ENGINEER 2. GROUT
    LIFT HEIGHT SHALL NOT EXCEED 12.67 FT WHEN THE MASONRY HAS CURED FOR 4- HOURS., 3. THE GROUT SLUMP IS MAINTAINED BETWEEN 10 AND 11 IN., AND 4. NO INTERMEDIATE REINFORCED BOND BEAMS ARE PLACED BETWEEN THE TOP AN BOTTOM OF THE POUR HEIGHT. OTHERWISE GROUT LIFT HEIGHT SHALL NOT EXCEED 5'-4". (3.5D OF ACI 530.1-11)
    D. ALL CELLS AND SPACES CONTAINING REINFORCEMENT SHALL BE FILLED WITH GROUT.
11. QUALITY ASSURANCE MEASURES SHALL COMPLY WITH SECTION 2105 OF 2014 LOS ANGELES BUILDING CODE AND TABLES 1.19.1, 1.19.2 AND 1.19.3 OF ACI 530 AND SHALL BE INCLUDED IN THE STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY 1705 OF 2014 LABC.
12. FIVE MASONRY PRISM TESTS SHALL BE BUILT AND TESTED PRIOR TO CONSTRUCTION.
13. THREE MASONRY PRISM TESTS (PER 5000 SQ. FT. AREA, 3 MIN.) SHALL BE BUILT AND TESTED DURING CONSTRUCTION WHEN STRESSES ARE USED IN DESIGN.
14. CONTINUOUS INSPECTION SHALL BE PROVIDED FOR ALL MASONRY CONSTRUCTION BY A DEPUTY INSPECTOR CERTIFIED BY THE LOS ANGELES CITY DEPARTMENT OF BUILDING AND SAFETY.
15. PIPES AND CONDUITS EMBEDDED IN MASONRY SHALL NOT REDUCE THE REQUIRED STRENGTH.
16. JOINT REINFORCEMENT USED IN EXTERIOR WALLS AND CONSIDERED IN THE DETERMINATION OF SHEAR STRENGTH, SHALL BE HOT DIPPED GALVANIZED.
17. THE TOP OF UNFINISHED MASONRY WORK SHALL BE COVERED TO PROTECT THE MASONRY FROM THE WEATHER.

EARTHWORK & FOUNDATION NOTES

1. THE CONTRACTOR SHALL CONFORM WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEERS' GEOTECHNICAL REPORT W.O. #E170163B, GEO FILE #03-053 DATED JUNE 11, 2019, ENTITLED UPDATE GEOTECHNICAL ENGINEERING REPORT, CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRCT, LOT FR 325, SUPPLEMENTAL GEOTECHNICAL REPORT W.O. #E170163B, GEO FILE #03-053 DATED MARCH 12, 2020, ENTITLED ADDITIONAL RECOMMENDATIONS FOR CESAR CHAVEZ PARK (SHELDON ARLETTA LANDFIL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRACT, LOT FR 325. 2nd SUPPLEMENTAL GEOTECHNICAL REPORT W.O. #E170163B, GEO FILE #03-053 DATED MARCH 2021, ENTITLED SUPPORT FOR BLEACHERS AT CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRACT, LOT FR 325.
2. THE CONTRACTOR SHALL NOTIFY THE PROJECT GEOTECHNICAL ENGINEER, OR THEIR DESIGNEE, TO MONITOR, INSPECT, AND APPROVE ANY EXCAVATIONS, SHORING INSTALLATION, FOUNDATIONS, AND THE PLACEMENT OF COMPACTED FILL. THE PROJECT GEOTECHNICAL ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF INSPECTION.
3. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION BY THE CITY OF LOS ANGELES, DEPARTMENT OF BUILDING AND SAFETY, AT LEAST 48 HOURS IN ADVANCE.
4. ALL EXCAVATIONS OF FOOTINGS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER OR THEIR DESIGNEE, AND THE CITY OF LOS ANGELES, DEPARTMENT OF BUILDING AND SAFETY INSPECTOR PRIOR TO PLACEMENT OF FOUNDATION CONCRETE. THE CONTRACTOR MAY ELECT TO PLACE REINFORCEMENT STEEL PRIOR TO REPORT APPROVAL, BUT DOES SO AT THEIR OWN RISK.
5. STRUCTURAL BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF THE GEOTECHNICAL REPORT. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND HAULED AWAY FROM THE SITE.
6. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL THE NECESSARY PERMITS FOR ALL TRENCHES AND EXCAVATIONS FIVE FEET OR MORE IN DEPTH, FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, PRIOR TO ISSUANCE OF A BUILDING OR GRADING PERMIT BY THE CITY OF LOS ANGELES, DEPARTMENT OF BUILDING AND SAFETY.
7. OVER EXCAVATE AND RECOMPACT SOILS AS REQUIRED PER THE SOILS RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEERS' GEOTECHNICAL REPORT W.O. #E170163B, GEO FILE #03-053 DATED JUNE 11, 2019, ENTITLED UPDATE GEOTECHNICAL ENGINEERING REPORT, CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRCT, LOT FR 325, SUPPLEMENTAL GEOTECHNICAL REPORT W.O. #E170163B, GEO FILE #03-053 DATED MARCH 12, 2020, ENTITLED ADDITIONAL RECOMMENDATIONS FOR CESAR CHAVEZ PARK (SHELDON ARLETTA LANDFIL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MARCLAY RANCHO TRACT, LOT FR 325.
8. NO FILL SHALL BE PLACED UNTIL THE GEOTECHNICAL ENGINEER AND BUILDING AND SAFETY GRADING INSPECTOR HAVE INSPECTED AND APPROVED THE BOTTOM OF EXCAVATION.
9. MAN MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90%; COHESIONLESS SOILS SUPPORTING STRUCTURAL FOUNDATIONS WITH LESS THAN 15% FINER THAN 0.005 MM REQUIRE 95% RELATIVE COMPACTION.
10. THE PROPOSED BASEBALL BACKSTOP FENCES SHALL BE SUPPORTED ON CIDH PILES WITH MINIMUM PILE DIAMETER OF 18 INCHES, AND EMBEDDED MINIMUM 6.5 FEET IN THE COMPACTED LANDFILL CAP OR NATURAL SOIL. PILES SHALL NOT BE DRILLED INTO THE TRASH FILL, AS RECOMMENDED PER GEOTECHNICAL REPORT.
11. ALL FRICTION PILE OR CAISSON DRILLNG AND INSTALLATION SHALL BE PERFORMED UNDER THE INSPECTION AND APPROVAL OF THE PROJECT GEOTECHNICAL ENGINEER.
12. THE PROPOSED BLEACHERS SHALL BE SUPPORTED ON A MAT FOUNDATION AND EMBEDDED MINIMUM 18 INCHES INTO CERTIFIED STRUCTURAL FILL OVER THE LANDFILL CAP.

BUREAU OF ENGINEERING — OFFICIAL RECORD

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING — CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER — MANAN J. BHALJA — S 6573 — STATE OF CALIFORNIA — 6/4/2021

CITY OF LOS ANGELES — DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP — CITY ENGINEER

		DATE
ENGINEER:	MANAN BHALJA, S.E.	6/4/2021
DESIGN GROUP	LIC. NO.: S-6573	
DESIGNED BY:	MANAN BHALJA, S.E., JORGE ARREOLA	6/4/2021
DRAWN BY:	JORGE ARREOLA	6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.	6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.	06/07/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: GENERAL NOTES

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. S001

SHEET 59 OF SHEETS 74

PLOTTED:6/3/2021 3:32:17 PM

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACOORDANCE WITH THE LATEST EDITION OF THE AISC SPECIFICATIONS. FABRICATOR SHALL BE LICENSED AND APPROVED BY THE DEPT OF BUILDING AND SAFETY CITY OF LOS ANGELES FOR THE WORK INDICATED.

2. ALL STRUCTURAL STEEL W-SHAPES SHALL CONFORM TO ASTM A-992 GRADE 50. PIPE COLUMNS SHALL COMPLY WITH ASTM A-53 GRADE B (Fy=35 KSI); STRUCTURAL HSS SHALL COMPLY WITH ASTM A-500 GRADE B (Fy=46 KSI). ALL ANGLES, CHANNELS, PLATES AND OTHER SHAPES SHALL COMPLY WITH ASTM A36.

3. CONNECTIONS NOT DETAILED ON DRAWINGS SHALL BE DETAILED BY THE FABRICATOR AND SHALL BE DESIGNED TO DEVELOP THE STRENGTH OF THE CONNECTED MEMBER. DETAIL SHALL BE SUBMITTED IN THE SHOP DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER.

4. FABRICATOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

5. ALL HIGH STRENTH (H.S.) BOLTS, NUTS AND WASHERS SHALL COMPLY WITH ASTM A325. ANCHOR BOLTS INTO CONCRETE OR MASONRY OR WHERE MACHINE BOLTS (M.B.) ARE SPECIFIED SHALL CONFORM TO ASTM A307.

6. BASE PLATES BEARING ON CONCRETE OR MASONRY SHALL BEAR ON MINIMUM 1" THICK SOLID NON-SHRINK GROUT OR DRYPACK.

7. WELDING SHALL CONFORM TO THE LATEST EDITION OF AWS D1.1 SPECIFICATIONS. WELDING ELECTRODES SHALL BE E-70XX.

8. ALL COMPLETE PENETRATION SHOP WELDING, ALL FIELD WELDING AND HIGH STRENGTH BOLTING, EXCEPT MINOR OR TACK WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN INSPECTOR APPROVED BY THE CITY OF LOS ANGELES, DEPARTMENT OF BUILDING AND SAFETY.

9. ALL STRUCTURAL STEEL TO BE EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED SURFACES, AND CUT SURFACES OF GALVANIZED STEEL SHALL BE THOROUGHLY CLEANED AND COATED IN ACCORDANCE WITH SECTION 210-3.5 OF THE SSPWC.

10. ALL STRUCTURAL STEEL NOT EXPOSED TO WEATHER SHALL HAVE A COAT OF SHOP PRIMER EXCEPT WHERE STEEL IS TO BE FIREPROOFED, ENCASED IN CONCRETE OR AREA IN CONTACT WITH HIGH STRENGTH BOLTS.

METAL DECK

1. ALL METAL DECK AND ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A1008 GRADE A OR HIGHER SPECIFICATIONS WITH A MINIMUM YIELD STRENGTH OF 33,000 PSI. GALVANIZED PER ASTM A653, GRADE G90.

2. ROOF DECK SHALL BE VERCO PLB-36 (ER-0217) OR APPROVED EQUAL AND SHALL HAVE A MINIMUM GAUGE OF 18, DEPTH OF 1-1/2" . SEE DRAWINGS FOR SECTION PROPERTIES.

3. MINIMUM BEARING OF DECKING ON SUPPORTS SHALL BE TWO (2) INCHES. SHEETS SHALL BE ATTACHED TO ALL SUPPORTING STEEL MEMBER BY WELDING AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED COMPLETION OF ERECTION. ALL WELDS IN EXPOSED DECK AREAS SHALL HAVE TOUCH UP. DE-SLAG, CLEAN AND PRIME WITH A ZINC RICH PRIMER.

4. ALL DECKS AND LIGHT GAUGE STEEL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS CERTIFIED FOR LIGHT GAGE WELDING BY THE LOS ANGELES CITY DEPARTMENT OF BUILDING & SAFETY.

5. SPECIAL INSPECTION SHALL BE PROVIDED FOR ALL FIELD WELDING BY A DEPUTY INSPECTOR CERTIFIED BY THE LOS ANGELES CITY DEPARTMENT OF BUILDING AND SAFETY.

6. WELDING PROCEDURE SHALL BE SUBMITTED TO ENGINEER PRIOR TO START OF CONSTRUCTION.

7. SEE STRUCTURAL DRAWINGS FOR DETAILS OF DECK OPENINGS. SEE THE REST OF PROJECT'S DRAWINGS (ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC) FOR SIZE AND LOCATION OF REQUIRED OPENINGS.

ABBREVIATIONS

AB	ANCHOR BOLTS
ADDL	ADDITIONAL
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAILING
BP	BASE PLATE
C	CHANNEL
CJ	CEILING JOIST
CJP	COMPLETE JOINT PENETRATION
COLA	CITY OF LOS ANGELES
CONT	CONTINUOUS
CTR	CENTER
DEMO	DEMOLISH / DEMOLITION
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DIST	DISTANCE
EMBED	EMBEDMENT
EN	EDGE NAILING
EOR	ENGINEER OF RECORD
EQ	EQUAL
EW	EACH WAY
EXIST.	EXISTING
FF	FINISH FLOOR
FS	FAR SIDE
FT	FEET OR FOOT
GALV.	GALVANIZE
HS	HEADED STUD
HSS	HOLLOW STRUCTURAL STEEL
HT	HEIGHT
IN	INCH
K	KIPS
LADBS	LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY
LARR	LOS ANGELES RESEARCH REPORT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MC	MISCELLANEOUS CHANNEL
MIN	MINIMUM
MB	MACHINE BOLTS

ABBREVIATIONS: (CONT)

N	NORTH
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
PAF	POUDER ACTUATED FASTENERS
PCF	POUNDS PER CUBIC FOOT
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PT	PRESSURE TREADED
QA	QUALITY ASSURANCE
QC	QUALITY CONTROL
QTY	QUANTITY
RECT	RECTANGULAR
REQD	REQUIRED
REV	REVISION
RJ	ROOF JOIST
REF	REFERENCE
SE	STRUCTURAL ENGINEER
SHT	SHEET
SIM	SIMILAR
SMS	SHEET METAL SCREWS
SOG	SLAB ON GRADE
SQ	SQUARE
STL	STEEL
SYMM	SYMMETRICAL
t	THICKNESS
T&B	TOP AND BOTTOM
TOF	TOP OF FOUNDATION
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W/	WITH
W/0	WITHOUT
WP	WORKING POINT
WT	WEIGHT
YD	YARD

DESIGN DATA

MATERIAL DATA:

FOOTINGS.....f'c = 3,250 PSI
PLATES.....Fy = 36 KSI
REBARS.....Fy = 60 KSI

WIND DESIGN DATA:

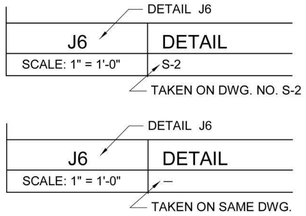
1. BASIC WIND SPEED.....95 MPH
2. WIND EXPOSURE.....B
3. RISK CATEGORY.....II
4. WIND PRESSURE.....12 PSF

SEISMIC DESIGN DATA:

1. SEISMIC IMPORTANCE FACTOR.....1.0
2. RISK CATEGORY.....II
3. MAPPED SPECTRAL ACCELERATION.....Ss = 2.284g, S1 = 0.846g
4. SITE CLASS.....D
5. SPECTRAL RESPONSE COEFFICIENTS.....SDS = 1.523g
6. LATERAL FORCE RESISTING SYSTEM.....GROUND SUPPORTED FENCES
7. DESIGN BASE SHEAR.....V = 0.54W
8. SEISMIC RESPONSE COEFFICIENT.....Cs = 0.54
9. RESPONSE MODIFICATION FACTOR.....R = 1.25
10. ANALYSIS PROCEDURE.....EQUIVALENT LATERAL FORCE PROCEDURE

DESIGN LOAD BEARING VALUES OF SOILS:

1. ALLOWABLE SOIL BEARING .....1000 PSF (FOOTINGS)
2. LATERAL RESISTANCE.....300 PSF PER FOOT OF DEPTH (FOOTINGS AND CAISSONS) (1/3 TEMP. INCREASE FOR WIND AND SEISMIC)
3. ALLOWABLE COEFFICIENT OF FRICTION.....0.29 (FOOTINGS AND CAISSONS)
4. ALLOWABLE SOIL BEARING..... 500 PSF (0.5" STATIC SETTLEMENT) (MAT FOUNDATION) 1000 PSF (0.8" STATIC SETTLEMENT) 1500 PSF (1.2" STATIC SETTLEMENT) ADDITIONAL 25 PSF PER FOOT OF DEPTH BELOW 18" (1/3 TEMP. INCREASE FOR WIND AND SEISMIC)
5. ALLOWABLE COEFFICIENT OF FRICTION.....0.30 (MAT FOUNDATION)



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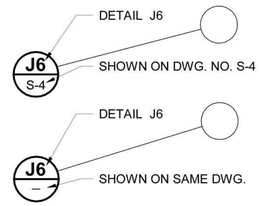
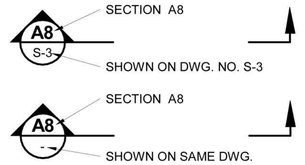


DETAIL CALLOUT



SECTION CALLOUT

BUREAU OF ENGINEERING
OFFICIAL RECORD

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER MANAN J. BHALLA S 6573 CIVIL STRUCTURAL STATE OF CALIFORNIA

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP CITY ENGINEER DATE: 06/07/2021

ENGINEER: MANAN BHALJA, S.E. DESIGN GROUP MB LIC. NO. S-6573 6/4/2021
DESIGNED BY: MANAN BHALJA, S.E., JORGE ARREOLA 6/4/2021
DRAWN BY: JORGE ARREOLA
CHECKED BY: MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E. 6/4/2021
APPROVED BY: SHAILESH "SUNNY" PATEL, S.E. 6/4/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: DESIGN DATA AND ABBREVIATIONS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. S002
SHEET 60 OF SHEETS 74

PLOTTED:6/3/2021 3:32:18 PM

DEPUTY INPSECTION - CITY OF LOS ANGELES

1. THIS SECTION APPLIES TO STRUCTURAL PORTION OF THE WORK REQUIRING SPECIAL INSPECTION IN ACCORDANCE WITH LABC SECTION 1704 & 1707.
2. CONTINUOUS INSPECTION REFERS TO ON-SITE INSPECTION ON A CONTINUOUS BASIS OBSERVING ALL WORK REQUIRING SPECIAL INSPECTION.
3. PERIODIC INSPECTION REFERS TO INTERMITTENT INSPECTION ON A PERIODIC BASIS. SATISFYING THE REQUIREMENTS OF CONTINUOUS INSPECTION AND PERFORMED AS OUTLINED ON THE PROJECT CONSTRUCTION DOCUMENTS, AND APPROVED BY THE BUILDING OFFICIAL.
4. SPECIAL INSPECTION IS NOT REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A CITY OF LOS ANGELES APPROVED FABRICATION SHOP APPROVED TO PERFORM THE WORK.
5. SPECIAL INSPECTION SHALL BE PERFORMED BY A DEPUTY INSPECTOR REGISTERED IN THE CITY OF LOS ANGELES FOR THE PORTIONS OF THE WORK REQUIRING INSPECTION. THE DEPUTY INSPECTOR SHALL BE EMPLOYED BY THE OWNER, AND SHALL BE APPROVED BY AND BE RESPONSIBLE TO THE ENGINEER IN CHARGE OF THE STRUCTURAL DESIGN FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
6. THE EMPLOYMENT AND DUTIES OF THE DEPUTY INSPECTOR SHALL BE IN CONFORMANCE WITH THE LABC AND COLA INFORMATION BULLETIN P/BC 2011-34.
7. THE SPECIAL INSPECTOR SHALL FURNISH DEPUTY INSPECTION REPORTS (LADBS IN FORM 07) TO THE DEPARTMENT OF BUILDING AND SAFETY, THE CONTRACTOR, THE OWNER'S REPRESENTATIVE, AND THE ENGINEER OF RECORD. REPORTS SHALL BE FILLED OUT AT THE TIME OF INSPECTION AND SUBMITTED TO LADBS DAILY. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. THEN IF UNCORRECTED, TO THE OWNER'S REPRESENTATIVE, THE ENGINEER OF RECORD, AND THE BUILDING OFFICIAL.
8. AT THE TIME OF COMPLETION OF THE PROJECT, THE STRUCTURAL OBSERVER OF RECORD SHALL COMPLETE A CERTIFICATE OF COMPLIANCE INDICATING THAT THE DEPUTY INSPECTORS WERE RESPONSIBLE TO THEM.
9. AT THE COMPLETION OF THE STRUCTURAL WORK, THE SPECIAL INSPECTORS SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT ALL WORK WAS PERFORMED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE LABC.
10. CONTINUOUS INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED FOR ALL CONCRETE DESIGNED WITH f'c GREATER THAN 2500 PSI.
11. CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN "STATEMENT OF SPECIAL INSPECTION" SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBLITY TO THE LADBS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SEC 1706.1.
12. SEE TABLE ON SAME PAGE FOR ITEMS REQUIRING SPECIAL INSPECTION.

WORK REQUIRING SPECIAL INSPECTION AND STRUCTURAL OBSERVATION:		SPECIAL * INSPECTION	
		CONT.	PERIODIC
CONCRETE	A. CONCRETE PLACEMENT. 1. FOUNDATION / GRADE BEAMS 2. SLAB-ON-GRADE. 3. ALL OTHER STRUCTURAL CONCRETE.	✓	
	B. MOLDING OF COMPRESSION TEST SAMPLES.	✓	
	C. PLACEMENT OF HIGH STRENGTH NON SHRINK GROUT AND TAKING SAMPLES.		
	D. PLACEMENT OF REINFORCING PRIOR TO CLOSING THE FORM.		✓
REINFORCING STEEL	A. PLACEMENT OF REINFORCING BARS.		✓
	B. SAMPLING FOR TESTING.		✓
	C. MILL REPORT VERIFICATION AND MATERIAL IDENTIFICATION.	✓	
MASONRY	A. PROPORTIONS OF SITE PREPARED MORTAR		✓
	B. GRADE, TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS		✓
	C. PLACEMENT OF REINFORCEMENT AND ANCHOR BOLTS		✓
	D. GROUT SPACE		✓
	E. MATERIALS AND PROCEDURES WITH APPROVED SUBMITTLAS		✓
	F. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		✓
	G. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISM.		✓

*FOR QUALIFICATION OF INSPECTOR REFER TO LABC SECTION 1704.2.1

GENERAL NOTES FOR STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCTURAL SYSTEM IN ACCORDANCE WITH THE INFORMATION BULLETIN NO. P/BC 2020-024. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION AT THE CONSTRUCTION SITE OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETE STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBLILITY FOR THE INSEPCTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.
2. THE OWNER SHALL EMPLOY A STATE OF CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER OR LICENSED ARCHITECT TO PERFORM THE STRUCTURAL OBSERVATION. THE DEPARTMENT OF BUILDING AND SAFETY (LADBS) RECOMMENDS THE USE OF THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN WHO ARE INDEPENDENT OF THE CONTRACTOR.
3. THE STRUCTURAL OBSERVER SHALL PROVIDE EVIDENCE OF EMPLOYMENT BY THE OWNER OR THE OWNER'S REPRESENTATIVE. A LETTER FROM THE OWNER, THE OWNER'S REPRESENTATIVE, OR A COPY OF THE AGREEMENT FOR SERVICE SHALL BE SENT TO THE BUILDING INSPECTOR BEFORE THE FIRST SITE VISIT.
4. THE OWNER OR OWNER'S REPRESENTATIVE SHALL COORDINATE AND CALL FOR A MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOADS SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT SUBMITTED TO THE BUILDING INSPECTOR
5. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE LISTED SIGNIFICANT CONSTRUCTION STAGES ON THE FOLLOWING STRUCTURAL OBSERVATION/SIGNIFICANT CONSTRUCTION STAGES TABLE REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER.
6. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT OF THE STRUCTURAL OBSERVATION REPORT FORM IN/FORM.08 (PART 1) FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE STRUCTURAL OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMP) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. THE COPY ATTACHED TO THE PLANS SHALL BE SIGNED AND SEALED (WET STAMP) BY THE RESPONSIBLE STRUCTURAL OBSERVER OR THEIR DESIGNEE. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR, AND DEUPTY INSPECTOR, ANY DEFICIENCY NOTED ON THE OBSERVATION REPORT WILL BECOME THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD TO VERIFY ITS COMPLETION BY HIM/HER OR BY A REGISTERED DEUPTY INSPECTOR AT THE DISCRETION OF THE STRUCTURAL OBSERVER.
7. A FINAL OBSERVATION REPORT AND THAT OF THE REGISTERED DEPUTY INSPECTOR MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFICIENCIES WERE RESOLVED AND STRUCTURAL SYSTEM GENERALLY CONFORMS WITH THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY (LADBS) WILL NOT ACCEPT THE STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THAT OF THE REGISTERED DEPUTY INSPECTOR (WHEN PROVIDED) AND THE CORRECTION OF SPECIFIC DEFIECIENCIES NOTED DURING NORMAL BUILDING INSPECTION.
8. THE STRUCTURAL OBSERVER SHALL PROVIDE THE ORIGINAL STAMPED AND SIGNED STRUCTURAL OBSERVATION REPORT TO THE CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY BUILDING INSPECTOR.
9. WHEN THE OWNER ELECTS TO CHANGE THE STRUCTURAL OBSERVER OF RECORD, THE OWNER SHALL:

   A) NOTIFY THE BUILDING INSPECTOR IN WRITING BEFORE THE NEXT INSPECTION BY SUBMITTING COMPLETED "STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER FORM IN/FORM.08 (PART 2).
   B) CALL AN ADDITIONAL PRECONSTRUCTION MEETING, AND
   C) FURNISH THE REPLACEMENT STRUCTURAL OBSERVER WITH A COPY OF ALL PREVIOUS OBSERVATION REPORTS.

   THE REPLACEMENT STRUCTURAL OBSERVER SHALL APPROVE THE CORRECTION OF THE ORIGINAL OBSERVED DEFICIENCIES UNLESS OTHERWISE APPROVED BY PLAN CHECK SUPERVISION. THE POLICY OF THE DEPARTMENT SHALL BE TO CORRECT ANY PROPERLY NOTED DEFICIENCIES WITHOUT CONSIDERATION OF THEIR SOURCE.
10. THE ENGINEER OR ARCHITECT OF RECORD SHALL DEVELOP ALL CHANGES RELATING TO THE STRUCTURAL SYSTEM. THE BUILDING DEPARTMENT SHALL REVIEW AND APPROVE ALL CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS.

BUREAU OF ENGINEERING OFFICIAL RECORD

STRUCTURAL OBSERVATION/ SIGNIFICANT CONSTRUCTION STAGES
(ONLY CHECKED ITEMS ARE REQUIRED)

FIRM OR INDIVIDUAL TO BE RESPONSIBLE FOR THE " STRUCTURAL OBSERVATION "
NAME: MANAN BHALJA, S.E. ☐ LICENSED ARCHITECT ☒ REGISTERED ENGINEER
PHONE: (213) 485-5363 CALIFORNIA REGISTRATION NUMBER: S-6573

CONSTRUCTION STAGE	CONSTRUCTION TYPE	ELEMENTS/ CONNECTIONS TO BE OBSERVED
FOUNDATION	☒ FOOTINGS ☒ SLAB ON GRADE ☒ GRADE BEAMS ☐ OTHERS:	FOUNDATIONS: FOOTING LOCATION, LENGTH, WIDTH & THICKNESS, REBAR SIZE, SPACING, & DETAILING
WALL	☐ CONCRETE ☒ MASONRY ☐ WOOD ☐ OTHERS:	CMU WALL: WALL HEIGHT, WIDTH & THICKNESS, REBAR SIZE, SPACING, & DETAILING

DECLARATION BY OWNER OR OWNER'S REPRESENTATIVE

I, ☐ THE OWNER OF THE PROJECT ☐ THE OWNER'S REPRESENTATIVE, DECLARE THAT THE ABOVE LISTED FIRM OR INDIVIDUAL IS HIRED BY ME TO BE THE STRUCTURAL OBSERVER.

SIGNATURE DATE

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD (REQUIRED IF THE STRUCTURAL OBSERVER IS DIFFERENT FROM THE ARCHITECT OR ENGINEER OF RECORD)

I, THE ARCHITECT OR ENGINEER OF RECORD FOR THE PROJECT, DECLARE THAT THE ABOVE LISTED FIRM OR INDIVIDUAL IS DESIGNATED BY ME TO BE RESPONSIBLE FOR THE " STRUCTURAL OBSERVATION ".

SIGNATURE LICENSE NO. DATE

STRUCTURAL OBSERVATION PROGRAM
AND DESIGNATION OF THE
STRUCTURAL OBSERVER

PROJECT ADDRESS: 12455 WICKS STREET, SUN VALLEY CA 91352 PERMIT APPL NO: 20020-10000-02051
DESCRIPTION OF WORK: SHELDON ARLETA PARK
OWNER: CITY OF L.A. ARCHITECT: JANE ADRIAN ENGINEER: MANAN BHALJA, S.E.

STRUCTURAL OBSERVATION
(ONLY CHECKED ITEMS ARE REQUIRED)

FIRM OR INDIVIDUAL TO BE RESPONSIBLE FOR THE STRUCTURAL OBSERVATION:
NAME: MANAN BHALJA PHONE: (213) 485-5363 CALIF REGISTRATION: S-6573

FOUNDATION	WALL	FRAME	DIAPHRAGM
☒ FOOTINGS	☐ CONCRETE	☐ STEEL MOMENT FRAME	☐ CONCRETE
☒ SLAB ON GRADE	☒ MASONRY	☐ STEEL BRACED FRAME	☐ STEEL DECK
☒ GRADE BEAMS	☐ WOOD	☐ CONCRETE MOMENT FRAME	☐ WOOD
☐ STEPP'G / RETAIN'G FOUNDATION HILLSIDE SPECIAL ANCHORS	☐ OTHERS:	☐ MASONRY WALL FRAME	☐ OTHERS:
☐ OTHERS:		☐ OTHERS:	

DECLARATION BY OWNER

I, THE OWNER OF THE PROJECT, DECLARE THAT THE ABOVE LISTED FIRM OR INDIVIDUAL IS HIRED BY ME TO BE THE STRUCTURAL OBSERVER.

SIGNATURE DATE

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD
(REQUIRED IF THE STRUCTURAL OBSERVER IS DIFFERENT FROM THE ARCHITECT OR ENGINEER OF RECORD)

I, THE ARCHITECT OR ENGINEER OF RECORD FOR THE PROJECT, DECLARE THAT THE ABOVE LISTED FIRM OR INDIVIDUAL IS DESIGNATED BY ME TO BE RESPONSIBLE FOR THE STRUCTURAL OBSERVATION.

SIGNATURE LICENSE NO. DATE

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES (DESIGN STAGE ONLY)

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING

ENGINEERING CITY OF LOS ANGELES

NO. | REVISION DESCRIPTION | DATE | BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

PROFESSIONAL ENGINEER MANAN J. BHALJA S 6573 REGISTERED CIVIL STRUCTURAL STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER DATE: 6/4/2021

ENGINEER:	MANAN BHALJA, S.E.	LIC. NO. S-6573	6/4/2021
DESIGNED BY:	MANAN BHALJA, S.E., JORGE ARREOLA		6/4/2021
DRAWN BY:	JORGE ARREOLA		
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.		6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		06/07/2021

DESIGN GROUP MB

CLIENT: GENERAL: DEPARTMENT OF RECREATION AND PARKS
MICHAEL A. SHULL

SHEET TITLE: GENERAL NOTES FOR DEPUTY INSPECTION & STRUCTURAL OBSERVATION

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. S003

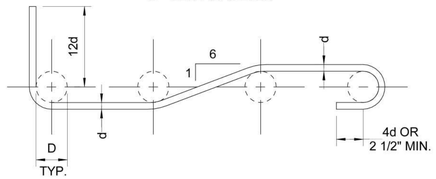
SHEET 61 OF SHEETS 74

PLOTTED:6/3/2021 3:32:19 PM

NOTES:
1. ALL BENDS SHALL BE MADE COLD.
2. #14 & #18 BARS SHALL BE BEND-TESTED AT LAB AND APPROVED PRIOR TO BENDING.
3. FOR SIZE AND SPACING OF ALL TIES AND STIRRUPS, REFER TO SCHEDULE AND/OR DETAILS, TYP.

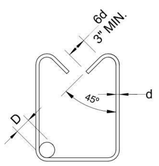
D = 4 db FOR #3 - #5
D = 6 db FOR #6 - #8
D = 8 db FOR #9 - #11

d = BAR DIAMETER
D = BENT DIAMETER

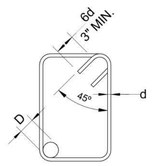


BAR DIAMETER DISTANCES IN INCHES									
BAR NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11
BAR DIA. (in)	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8
3db=	1 1/8	1 1/2	1 7/8	2 1/4	2 5/8	3	3 3/8	3 3/4	4 1/4
4db=	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2
6db=	2 1/4	3	3 3/4	4 1/2	5 1/4	6	6 3/4	7 5/8	8 1/2
8db=	3	4	5	6	7	8	9	10 1/8	11 1/4
12db=	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2	15 1/4	16 7/8

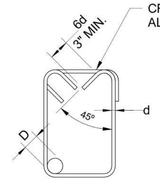
HOOPS AND TIE BEND DETAIL TABLE									
BAR NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11
BAR DIA. (IN)	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8
90° TEXT	6	6	8	10	12	12	14	16	18
135° TEXT	4	4	4	6	6	6	8	8	10
180° TEXT	4	4	4	4	4	4	6	6	6



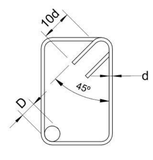
STD. BEAM STIRRUP



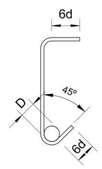
BEAM HOOP STIRRUP BENDS (WHERE OCCURS)



BEAM HOOP - ALTERNATE (WHERE OCCURS)



COLUMN TIE



CROSS TIE

F1 TYP STIRRUP, HOOP AND TIE BENDS DETAILS

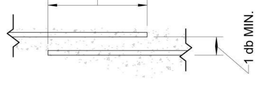
NOT TO SCALE

LIGHT WEIGHT CONCRETE LAP SPLICE LENGTH (in.)							
BAR NO.		#3	#4	#5	#6	#7	#8
BAR DIA. (in)		3/8	1/2	5/8	3/4	7/8	1
GRADE (ksi)		60	60	60	60	60	60
CLASS A	2000	40	54	67	80	117	134
	3000	33	44	55	66	96	110
	3250	32	42	53	63	92	105
	4000	28	38	47	57	83	95
	5000	25	34	42	51	74	85
	6000	23	31	39	46	68	77
CLASS B	2000	52	70	87	105	153	174
	3000	43	57	71	85	125	142
	3250	41	55	68	82	120	137
	4000	37	49	62	74	108	123
	5000	33	44	55	66	97	110
	6000	30	40	50	60	88	101

NORMAL WEIGHT CONCRETE LAP SPLICE LENGTH (in.)							
BAR NO.		#3	#4	#5	#6	#7	#8
BAR DIA. (in)		3/8	1/2	5/8	3/4	7/8	1
GRADE (ksi)		60	60	60	60	60	60
CLASS A	2000	30	40	50	60	88	101
	3000	25	33	41	49	72	82
	3250	24	32	39	47	69	79
	4000	21	28	36	43	62	71
	4500	20	27	34	40	59	67
	5000	19	25	32	38	56	64
	6000	17	23	29	35	51	58
CLASS B	2000	39	52	65	78	114	131
	3000	32	43	53	64	93	107
	3250	31	41	51	62	90	103
	4000	28	37	46	55	81	92
	4500	26	35	44	52	76	87
	5000	25	33	41	50	72	83
	6000	23	30	38	45	66	76

NOTES:
1. ALL TABULATED VALUES SHALL BE MULTIPLIED BY 1.3 FOR TOP BARS SPLICE. TOP BAR REFERS TO HORIZONTAL REINFORCING WITH MORE THAN 12" OF CONCRETE PLACED BELOW REINFORCING BAR DURING POUR.
2. ALL TABULATED VALUES SHALL BE MULTIPLIED BY 1.25 FOR SPLICES OF CHORD BARS, VERTICAL BOUNDARY REINFORCING SPLICES, AND DRAG BAR SPLICE.
3. WHERE BARS OF DIFFERENT SIZES ARE LAP SPLICED IN TENSION, SPLICE LENGTH SHALL BE THE LARGER OF THE DEVELOPMENT LENGTH OF THE LARGER BAR AND SPLICE LENGTH OF THE SMALLER BAR.

USE CLASS B
SPLICE FOR CONCRETE, UNO

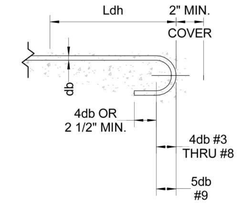


A1 TYPICAL REINFORCEMENT BAR LAP SPLICE LENGTH CONCRETE

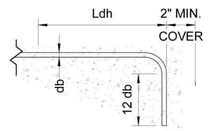
NOT TO SCALE

LIGHT WEIGHT CONCRETE MIN LENGTH FOR Ldh STANDARD HOOKS								
BAR NO.		#3	#4	#5	#6	#7	#8	#9
BAR DIA. (IN)		3/8	1/2	5/8	3/4	7/8	1	1 1/8
GRADE (ksi)		60	60	60	60	60	60	60
GENERAL USE	2500	8	11	14	17	20	22	25
	3000	8	10	13	15	18	20	23
	3250	7	10	12	15	17	20	22
	4000	7	9	11	13	15	18	20
SPECIAL CONFINMENT HOOK IS WITHIN TIES OR STIRRUPS <3db	2500	7	9	11	13	15	18	20
	3000	6	8	10	12	14	16	18
	3250	6	8	10	12	14	16	18
	4000	6	7	9	11	12	14	16

NORMAL WEIGHT CONCRETE MIN LENGTH FOR Ldh STANDARD HOOKS								
BAR NO.		#3	#4	#5	#6	#7	#8	#9
BAR DIA. (IN)		3/8	1/2	5/8	3/4	7/8	1	1 1/8
GRADE (ksi)		60	60	60	60	60	60	60
GENERAL USE	2500	6	8	11	13	15	17	19
	3000	6	8	10	12	13	15	17
	3250	6	7	9	11	13	15	17
	4000	6	7	8	10	12	13	15
SPECIAL CONFINMENT HOOK IS WITHIN TIES OR STIRRUPS <3db	2500	6	7	8	10	12	13	15
	3000	6	6	8	9	11	12	14
	3250	6	6	7	9	10	12	13
	4000	6	6	7	8	9	11	12



STANDARD 180° HOOK



STANDARD 90° HOOK

NOTES:
1. ALL HOOKED BARS SHALL EXTEND AS FAR AS POSSIBLE TO THE OPPOSITE FACE WITH A MINIMUM 2" END COVER AND EMBEDMENT NOT LESS THAN THE SCHEDULE.
2. SIDE COVER SHALL BE 2 1/2" MINIMUM.
3. L dh SHALL BE INCREASED 33% (L dh X 1.33) FOR DOWELS EMBEDED IN LIGHT WEIGHT CONCRETE.

F9 MIN EMBEDMENT LENGTH Ldh FOR STANDARD HOOKS

NOT TO SCALE

LIGHT WEIGHT CONCRETE DEVELOPMENT LENGTH (in)							
BAR NO.		#3	#4	#5	#6	#7	#8
BAR DIA. (in)		3/8	1/2	5/8	3/4	7/8	1
GRADE (ksi)		60	60	60	60	60	60
f'c (psi)	2000	40	54	67	80	117	134
	3000	33	44	55	66	96	110
	3250	32	42	53	63	92	105
	4000	28	38	47	57	83	95
	5000	25	34	42	51	74	85
	6000	23	31	39	46	68	77

NORMAL WEIGHT CONCRETE DEVELOPMENT LENGTH (in)							
BAR NO.		#3	#4	#5	#6	#7	#8
BAR DIA. (in)		3/8	1/2	5/8	3/4	7/8	1
GRADE (ksi)		60	60	60	60	60	60
f'c (psi)	2000	30	40	50	60	88	101
	3000	25	33	41	49	72	82
	3250	24	32	39	47	69	79
	4000	21	28	36	43	62	71
	4500	20	27	34	40	59	67
	5000	19	25	32	38	56	64
	6000	17	23	29	35	51	58

CONCRETE DEVELOPMENT LENGTH NOTES:
1. ALL TABULATED VALUES SHALL BE MULTIPLIED BY 1.3 FOR TOP BAR CONDITION. 'TOP BAR' REFERS TO HORIZONTAL REINFORCING WITH MORE THAN 12" OF CONCRETE PLACED BELOW REINFORCING BAR.
2. ALL TABULATED VALUES ARE FOR UNCOATED BARS.
3. WHERE REQUIRED DEVELOPMENT CANNOT BE ACHIEVED WITH STRAIGHT BARS, PROVIDE 180 OR 90 DEGREE HOOKS WITH ADEQUATE HOOKED BAR EMBEDMENT. REFER TO STANDARD HOOK SCHEDULE.



MASONRY DEVELOPMENT LENGTH										
BAR NO.		#3	#4	#5	#6	#7	#8	#9	#10	#11
BAR DIA. (IN)		3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8
GRADE (ksi)		60	60	60	60	60	60	60	60	60
f'm (psi)	1000	14	26	40	74	100	148	190	240	296
	1500	12	22	32	60	82	122	154	196	242
	2000	10	18	28	52	70	106	134	170	210
	2500	10	16	26	46	64	94	120	152	188
	3000	10	16	24	42	58	86	110	138	170

A9 TYPICAL REBAR DEVELOPMENT LENGTH

NOT TO SCALE

BUREAU OF ENGINEERING
OFFICIAL RECORD

ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER
MANAN J. BHALAJA
S 6573
STRUCTURAL
STATE OF CALIFORNIA

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ENGINEER:	MANAN BHALJA, S.E.	LIC. NO.: S-6573	DATE: 6/4/2021
DESIGN GROUP	MB		6/4/2021
DESIGNED BY:	MANAN BHALJA, S.E., JORGE ARREOLA		6/4/2021
DRAWN BY:	JORGE ARREOLA		6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.		6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		06/07/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: TYPICAL DETAILS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET
SUN VALLEY, CA 91352

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. S004

SHEET 62 OF SHEETS 74

PLOTTED:6/3/2021 3:32:22 PM

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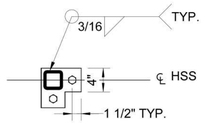
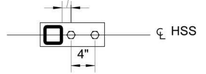
TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES (DESIGN STAGE ONLY)



CORNER CONDITION

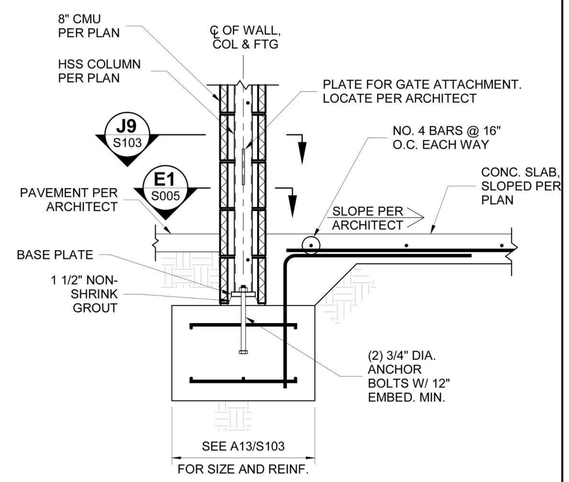


EDGE CONDITION

J1 HSS IN WALL

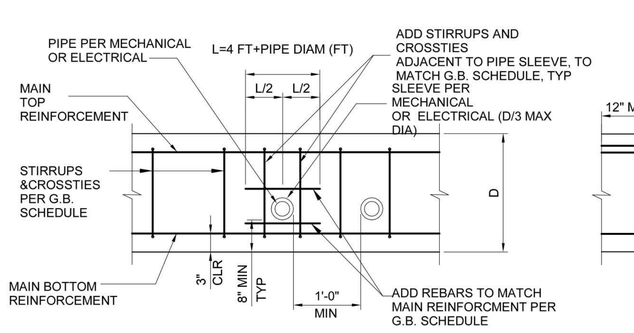
NOT TO SCALE

A1/ S103

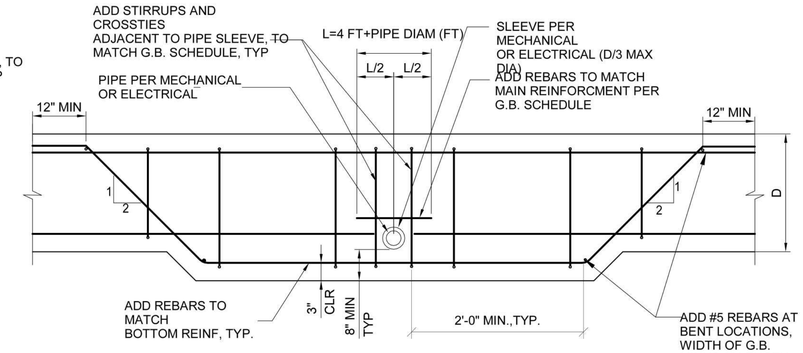


J7 PIPE AT GRADE BEAM DETAIL

NOT TO SCALE



CLEAR OF TOP & BOTTOM REINFORCEMENT



AT BOTTOM REINFORCEMENT

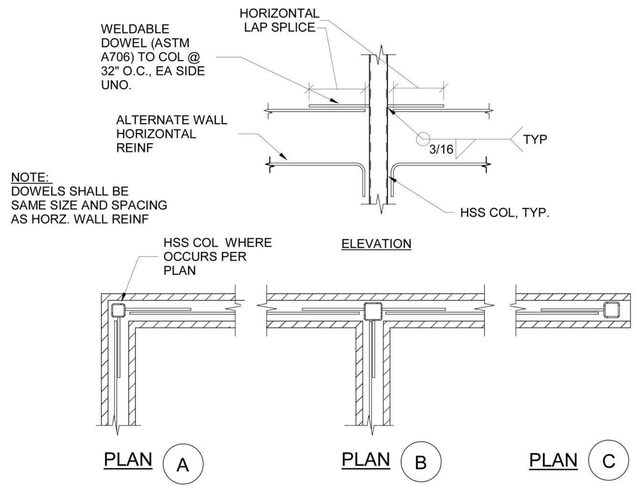
NOTES:

1. SLEEVE ID 2" LARGER THAN PIPE OD OR BELL OD.
2. SEAL VOID BETWEEN PIPE AND SLEEVE WITH ELASTIC WATERPROOF MATERIAL TYP.
3. DETAIL APPLICABLE TO MAXIMUM 8"Ø SLEEVE.

E1 HORIZONTAL DOWEL AT STEEL COL

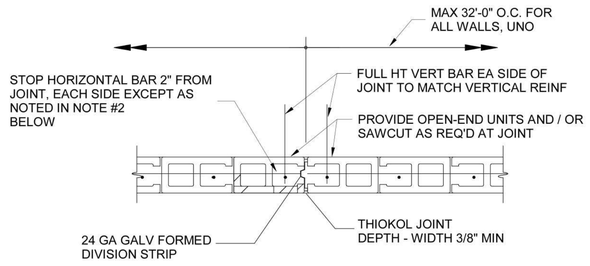
NOT TO SCALE

J1/ S005



E7 MASONRY WALL CONTROL JOINT

NOT TO SCALE



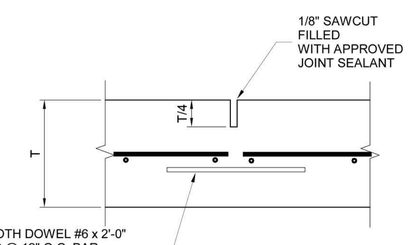
PLAN

NOTES:

1. FOR CONTROL JOINTS IN HEAD SECTION OVER OPENINGS, INSTALL DIVISION STRIPS IN 8" SECTIONS W/ ALTERNATING KEY EA SIDE OF JOINT.
2. HORIZONTAL REINF AT FLOOR & ROOF LINES, AND LINTELS SHALL BE CONTINUOUS THROUGH JOINT.

E12 TYP CONTRACTION JOINT FOR SLABS

NOT TO SCALE



NOTES:

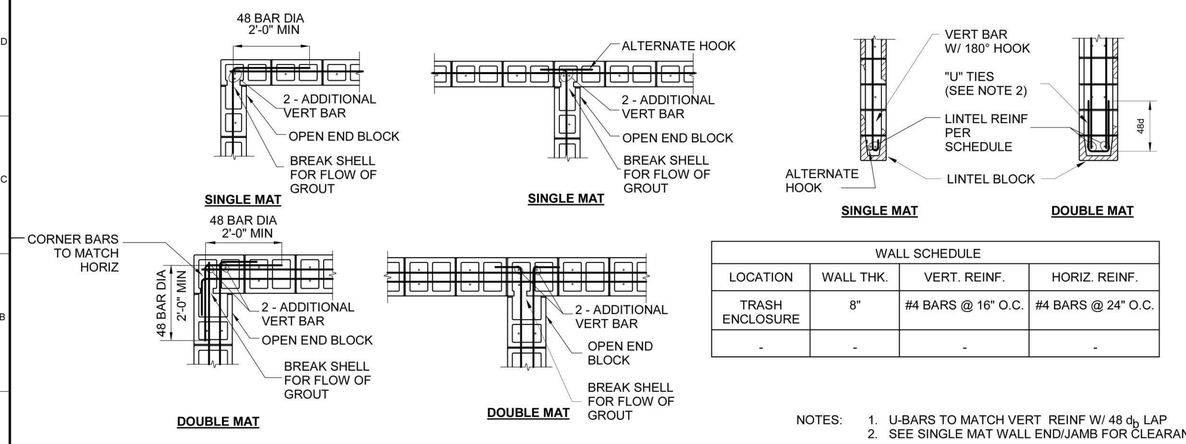
1. JOINT FORMED WITH TOOL OR INSERT STRIP MAY BE SUBSTITUTED FOR SAWED TYPE ONLY WITH PRIOR ACCEPTANCE BY THE ENGINEER.

2. SAWING SHALL BE PERFORMED WITHIN 48 HOURS. CONTRACTOR SHALL DETERMINE THE OPTIMUM TIME FOR SAWING TO AVOID CRACKING.

3. RECOMMENDED SPACING OF THE CONTRACTION JOINT IS 18' MAX. WITH AN ASPECT RATIO OF 1:1.

A1 MASONRY WALL DETAILS

NOT TO SCALE

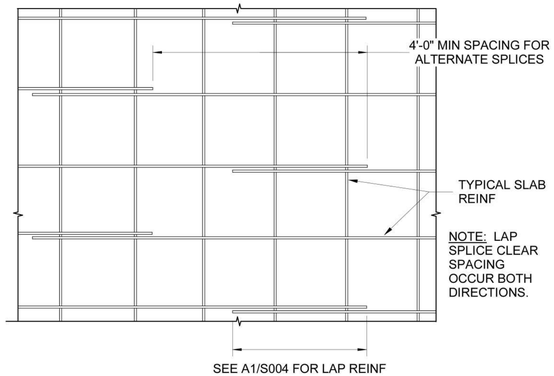


WALL SCHEDULE			
LOCATION	WALL THK.	VERT. REINF.	HORIZ. REINF.
TRASH ENCLOSURE	8"	#4 BARS @ 16" O.C.	#4 BARS @ 24" O.C.
-	-	-	-

NOTES:
1. U-BARS TO MATCH VERT REINF W/ 48 d_b LAP
2. SEE SINGLE MAT WALL END/JAMB FOR CLEARANCES OF 180° STD HOOK REBAR IN MASONRY.

A12 TYP LAP SPLICE SLAB REINF

NOT TO SCALE



PLAN

BUREAU OF ENGINEERING

ENGINEERING

CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER MANAN J BHALJA S 6573 STRUCTURAL STATE OF CALIFORNIA

BUREAU OF ENGINEERING OFFICIAL RECORD

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP CITY ENGINEER DATE: 6/4/2021

DESIGN GROUP | ENGINEER: MANAN BHALJA, S.E. LIC. NO.: S-6573 | 6/4/2021
DESIGNED BY: MANAN BHALJA, S.E., JORGE ARREOLA | 6/4/2021
DRAWN BY: JORGE ARREOLA | 6/4/2021
CHECKED BY: MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E. | 06/07/2021
APPROVED BY: SHAILESH "SUNNY" PATEL, S.E.

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: TYPICAL DETAILS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. S005

SHEET 63 OF SHEETS 74

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TTLB TEMPLATE REVISION DATE: 4/2016

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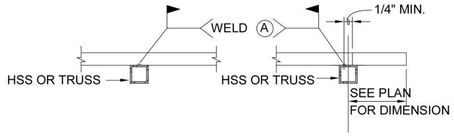
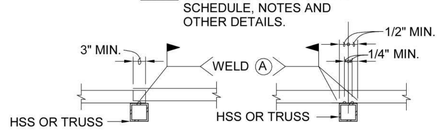
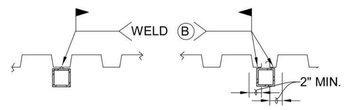


INTERMEDIATE BEARING END BEARING

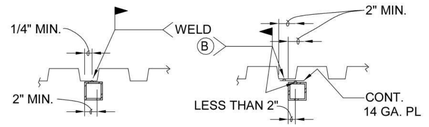
WELDS AT DECK PARALLEL TO BEAMS
NOTE: SEE STEEL DECK WELDING SCHEDULE, NOTES AND OTHER DETAILS.



LAP JOINT BUTT JOINT



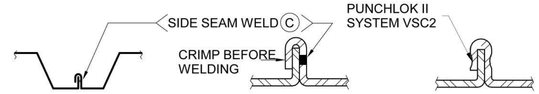
DECK CENTERED (PREFERRED) DECK SPLIT



DECK NOT CENTERED DECK NOT CENTERED

E5 METAL DECK PERPENDICULAR & PARALLEL TO BEAM DETAIL

NOT TO SCALE



AT WIDE - RIBBED DECK



AT NARROW - RIBBED DECK

AT DECK WITH V - LAP SIDE JOINTS
WELD C - SEE PLAN

E13 TYP METAL DECK SIDE SEAM

NOT TO SCALE

DECK SCHEDULE														
LEVEL	MARK	DECK	DECK MINIMUM SECTION PROPERTIES				DECK WELD						CONCRETE FILL		
							WELD "A"		WELD "B"		WELD "C"				
			D (IN)	I (IN^4)	+S (IN^3/FT)	-S (IN^3/FT)	SIZE & TYPE	# PER SHEET	SIZE & TYPE	SPACING	SIZE & TYPE	SPACING	THK (IN)	f'c (PSI)	TYPE
ROOF	D-1	1-1/2"x 18 GA PLB-36 DECK ER-0217	1-1/2"	0.302	0.314	0.331	1/2" Ø PUDDLE WELD	5	1/2"Ø PUDDLE WELD	24 " O.C.	VERCO PUNCHLOK II SYSTEM VSC2	12" O.C.	N/A	N/A	N/A
		VERCO PLB-36, OR APPROVED EQUAL					DETAIL E5		DETAIL E5		DETAIL E13				

NOTES:
1. PROVIDE A MINIMUM OF THREE CONTINUOUS SPANS FOR INSTALLATION.
2. PROVIDE SHORING AS REQUIRED (SEE DECK MANUFACTURER'S RECOMMENDATIONS).
3. WELD DECK TO SUPPORTS WITH 1/2" Ø PUDDLE WELDS @ 24" O.C., TYP PUDDLE WELDS MAY BE OMITTED WHERE STUD ANCHORS ATTACH DECK TO SUPPORT.
4. SEE GENERAL NOTES FOR METAL DECK INFORMATION.

A9 TYPICAL METAL DECK

NOT TO SCALE

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

BUREAU OF ENGINEERING
OFFICIAL RECORD

ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER MANAN J BHALJA S 6573 STRUCTURAL STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ENGINEER:	MANAN BHALJA, S.E.	DESIGN GROUP	LIC. NO. S-6573 DATE:
DESIGNED BY:	MANAN BHALJA, S.E., JORGE ARREOLA		6/4/2021
DRAWN BY:	JORGE ARREOLA		6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.		6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		06/07/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: TYPICAL METAL DECK DETAILS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET
SUN VALLEY, CA 91352

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. S006
SHEET 64 OF SHEETS 74

PLOTTED:6/3/2021 3:32:23 PM

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TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES (DESIGN STAGE ONLY)

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TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES: (DESIGN STAGE ONLY)

20' FOUL POLE

10' HIGH FENCE

4' HIGH FENCE (UNO)

20' FOUL POLE

APPROXIMATE BLEACHER LOCATION. REFER TO ARCHITECTUAL DRAWINGS FOR SIZE AND LOCATION.

20' HIGH FENCE

30' HIGH FENCE

10' - 0" MAX.

B

P

30' HIGH FENCE

30' HIGH FENCE

20' HIGH FENCE

10' HIGH FENCE

10' - 0" MAX.

APPROXIMATE BLEACHER LOCATION. REFER TO ARCHITECTUAL DRAWINGS FOR SIZE AND LOCATION.

PARTIAL SITE PLAN

NOT TO SCALE

NOTES:

1) REFER TO ARCHITECTURAL DRAWINGS FOR INFORMATION AND DIMENSIONS NOT SHOWN HEREIN.
2) FOUNDATIONS FOR FENCE POSTS SHALL BE AS INDICATED ON SHEET S102.
3) FOUNDATIONS FOR BLEACHERS SHALL BE AS INDICATED ON SHEET S104.

LEGEND:

[P] OUT OF PLANE POST FOOTING PER A9/S102.

[B] OUT OF PLANE GRADE BEAM PER A1/S102.

BUREAU OF ENGINEERING
OFFICIAL RECORD

BUREAU OF ENGINEERING

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER
MANAN J. BHALJA
S 6573
STRUCTURAL
STATE OF CALIFORNIA

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP CITY ENGINEER DATE: 6/4/2021

	DESIGN GROUP	LIC. NO. S-6573	DATE
ENGINEER:	MANAN BHALJA, S.E. MB		6/4/2021
DESIGNED BY:	MANAN BHALJA, S.E.		6/4/2021
DRAWN BY:	JORGE ARREOLA		6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.		6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		06/07/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: PARTIAL SITE PLAN

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. S101

SHEET 65 OF SHEETS 74

PLOTTED:6/3/2021 3:32:23 PM

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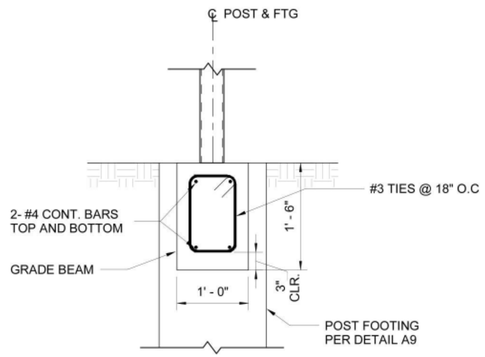
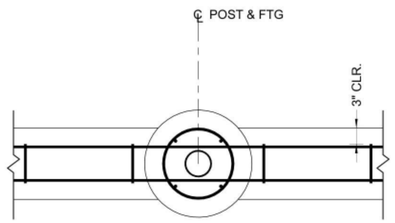
BUREAU OF ENGINEERING
OFFICIAL RECORD

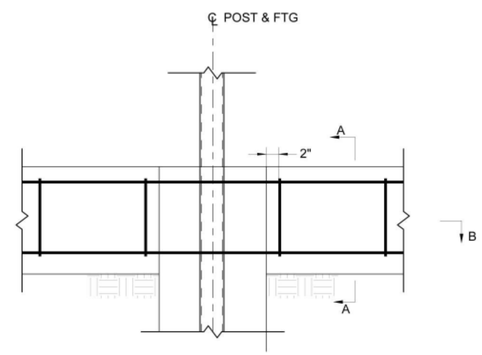
NOTE: FOR POST FOOTING REINFORCEMENT. REFER TO DETAIL A9



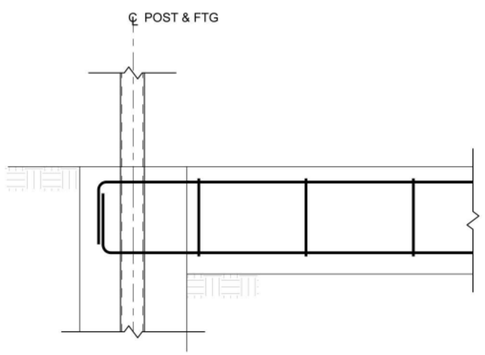
SECTION A-A



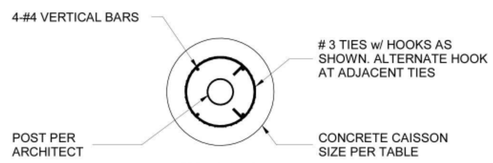
SECTION B-B



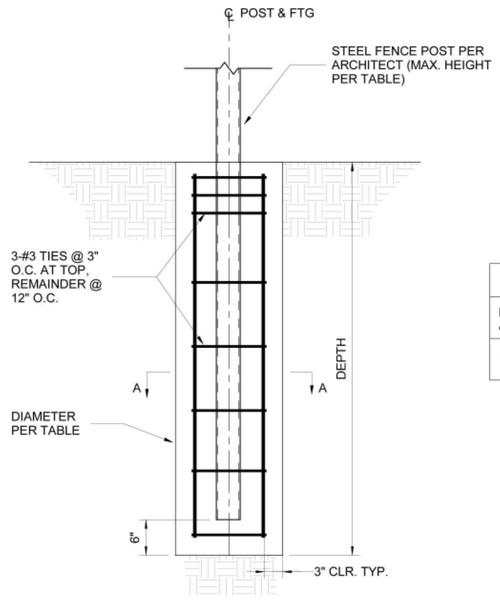
30' BACKSTOP FENCE AND GRADE BEAM FOOTING



GRADE BEAM END REINFORCEMENT



SECTION A-A



POST FOOTING SCHEDULE

TYPE (HEIGHT)	DIA. (IN)	DEPTH (FT)	SPACING
FENCE POST (20' & LOWER) & FOUL POLE	18"∅	6'-6"	10'-0" MAX.
FENCE POST (30')	18"∅	7'-0"	10'-0" MAX.

A1 FENCE POST FOOTING AND GRADE BEAM DETAIL
NOT TO SCALE

A9 POST FOOTING DETAILS AND SCHEDULE
NOT TO SCALE

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

ENGINEERING
CITY OF LOS ANGELES

REGISTERED PROFESSIONAL ENGINEER MANAN J. BHALJA S 6573 STATE OF CALIFORNIA

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ENGINEER:	MANAN BHALJA, S.E.	LIC. NO. S-6573	DATE: 6/4/2021
DESIGN GROUP	MB		6/4/2021
DESIGNED BY:	MANAN BHALJA, S.E., JORGE ARREOLA		6/4/2021
DRAWN BY:	JORGE ARREOLA		6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.		6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		06/07/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: FENCE POST FOUNDATION DETAILS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

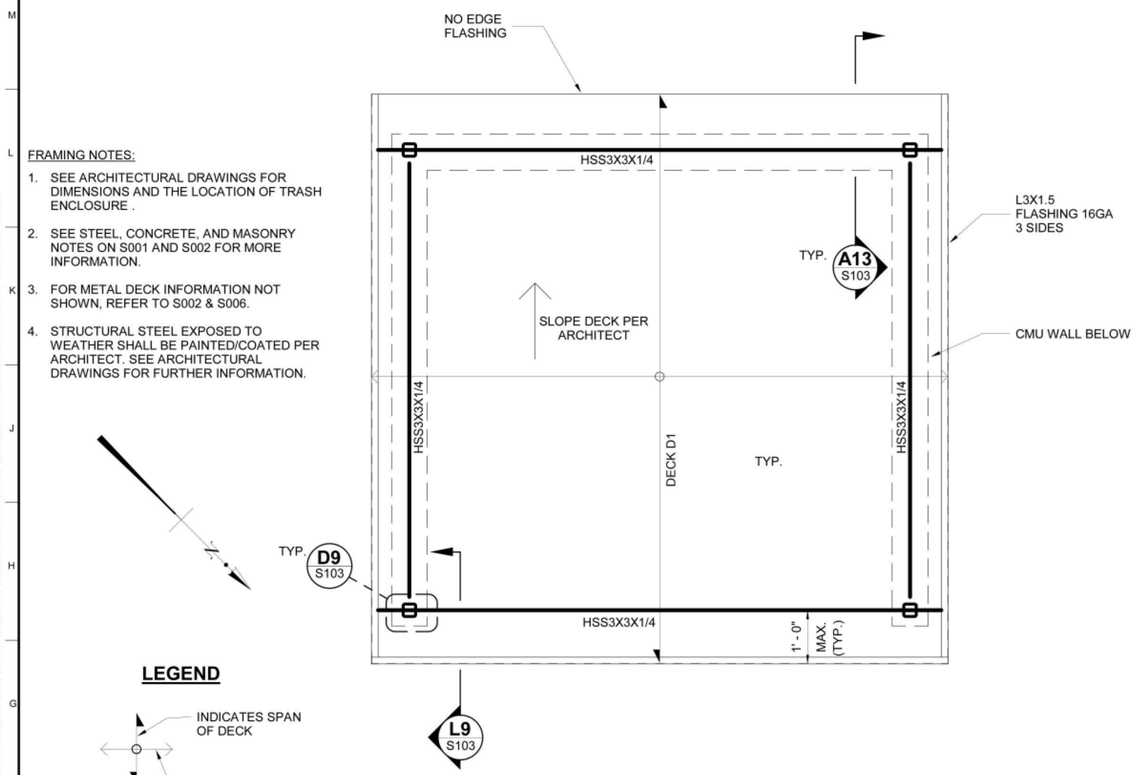
PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. S102
SHEET 66 OF SHEETS 74

PLOTTED:6/3/2021 3:32:24 PM

TTLB TEMPLATE REVISION DATE: 4/2016

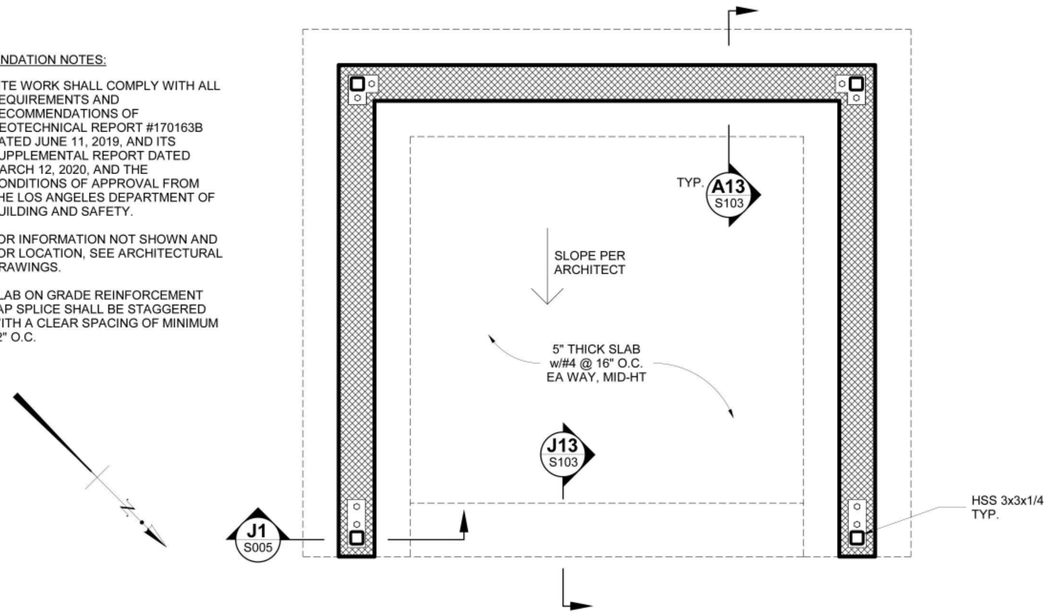
REVISION DATES (DESIGN STAGE ONLY)



FRAMING NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND THE LOCATION OF TRASH ENCLOSURE .
2. SEE STEEL, CONCRETE, AND MASONRY NOTES ON S001 AND S002 FOR MORE INFORMATION.
3. FOR METAL DECK INFORMATION NOT SHOWN, REFER TO S002 & S006.
4. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE PAINTED/COATED PER ARCHITECT. SEE ARCHITECTURAL DRAWINGS FOR FURTHER INFORMATION.

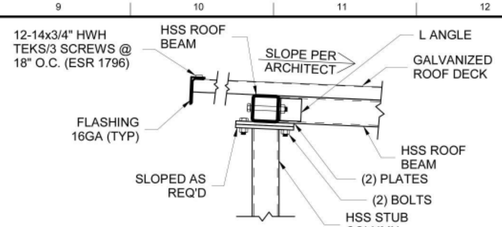
E5 TRASH ENCLOSURE ROOF PLAN
NOT TO SCALE



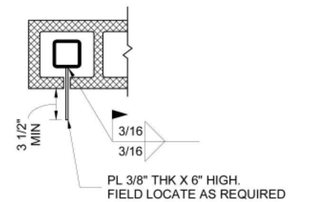
FOUNDATION NOTES:

1. SITE WORK SHALL COMPLY WITH ALL REQUIREMENTS AND RECOMMENDATIONS OF GEOTECHNICAL REPORT #170163B DATED JUNE 11, 2019, AND ITS SUPPLEMENTAL REPORT DATED MARCH 12, 2020, AND THE CONDITIONS OF APPROVAL FROM THE LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY.
2. FOR INFORMATION NOT SHOWN AND FOR LOCATION, SEE ARCHITECTURAL DRAWINGS.
3. SLAB ON GRADE REINFORCEMENT LAP SPLICE SHALL BE STAGGERED WITH A CLEAR SPACING OF MINIMUM 32" O.C.

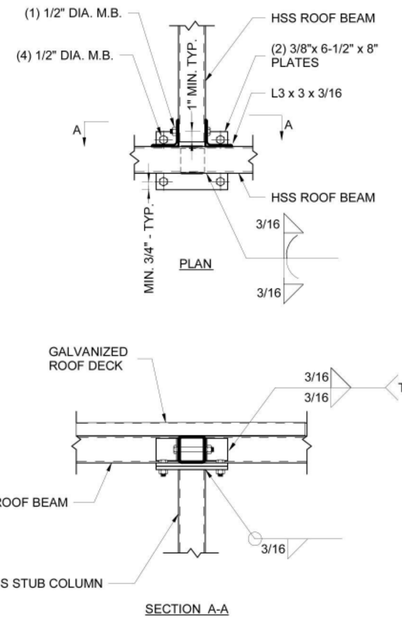
A1 TRASH ENCLOSURE FOUNDATION PLAN
NOT TO SCALE



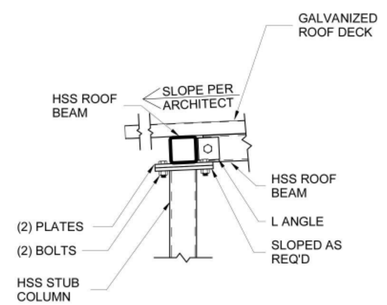
L9 FLASHING ATTACHMENT
NOT TO SCALE E5/ S103



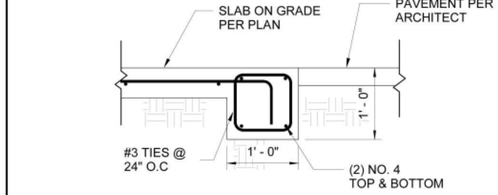
J9 HSS TO PLATE
NOT TO SCALE J1/ S005



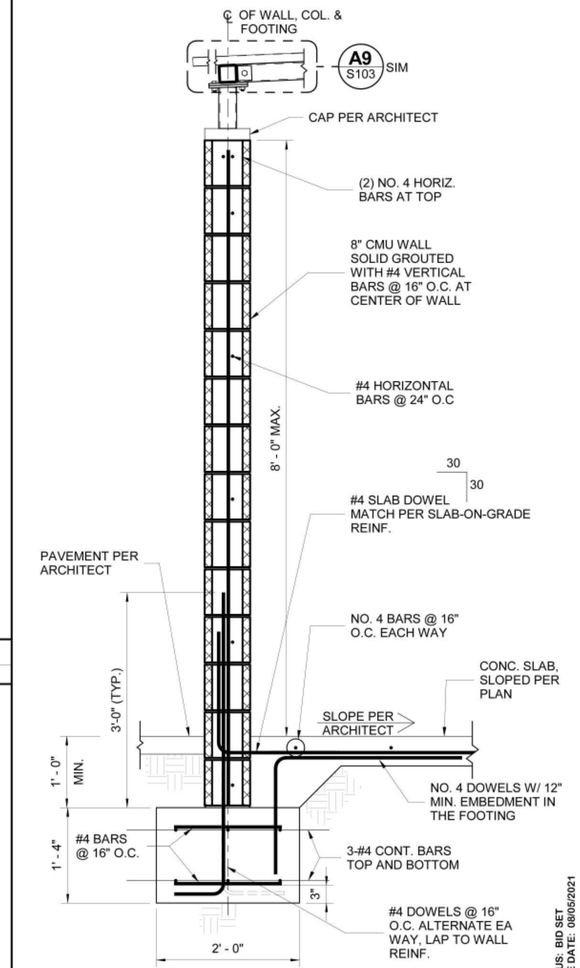
D9 ROOF DECK DETAIL
NOT TO SCALE E5/ S103



A9 ROOF PERPENDICULAR BEAM
NOT TO SCALE A13/ S103



J13 SLAB TO PAVEMENT DETAIL
NOT TO SCALE A1/ S103



A13 WALL SECTION
NOT TO SCALE A1/ S103

BUREAU OF ENGINEERING
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BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

REGISTERED PROFESSIONAL ENGINEER MANAN J BHALA S 6573 STATE OF CALIFORNIA

BUREAU OF PUBLIC WORKS
CITY OF LOS ANGELES
DEPARTMENT OF

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

DESIGN GROUP		DATE:	
ENGINEER:	MANAN BHALA, S.E.	LIC. NO. S-6573	6/4/2021
DESIGNED BY:	MANAN BHALA, S.E.,	JORGE ARREOLA	6/4/2021
DRAWN BY:	JORGE ARREOLA		6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E.,	SHIRISH MISTRY, S.E.	6/4/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		06/07/2021

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: TRASH ENCLOSURE - PLAN AND DETAILS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. S103
SHEET 67 OF SHEETS 74

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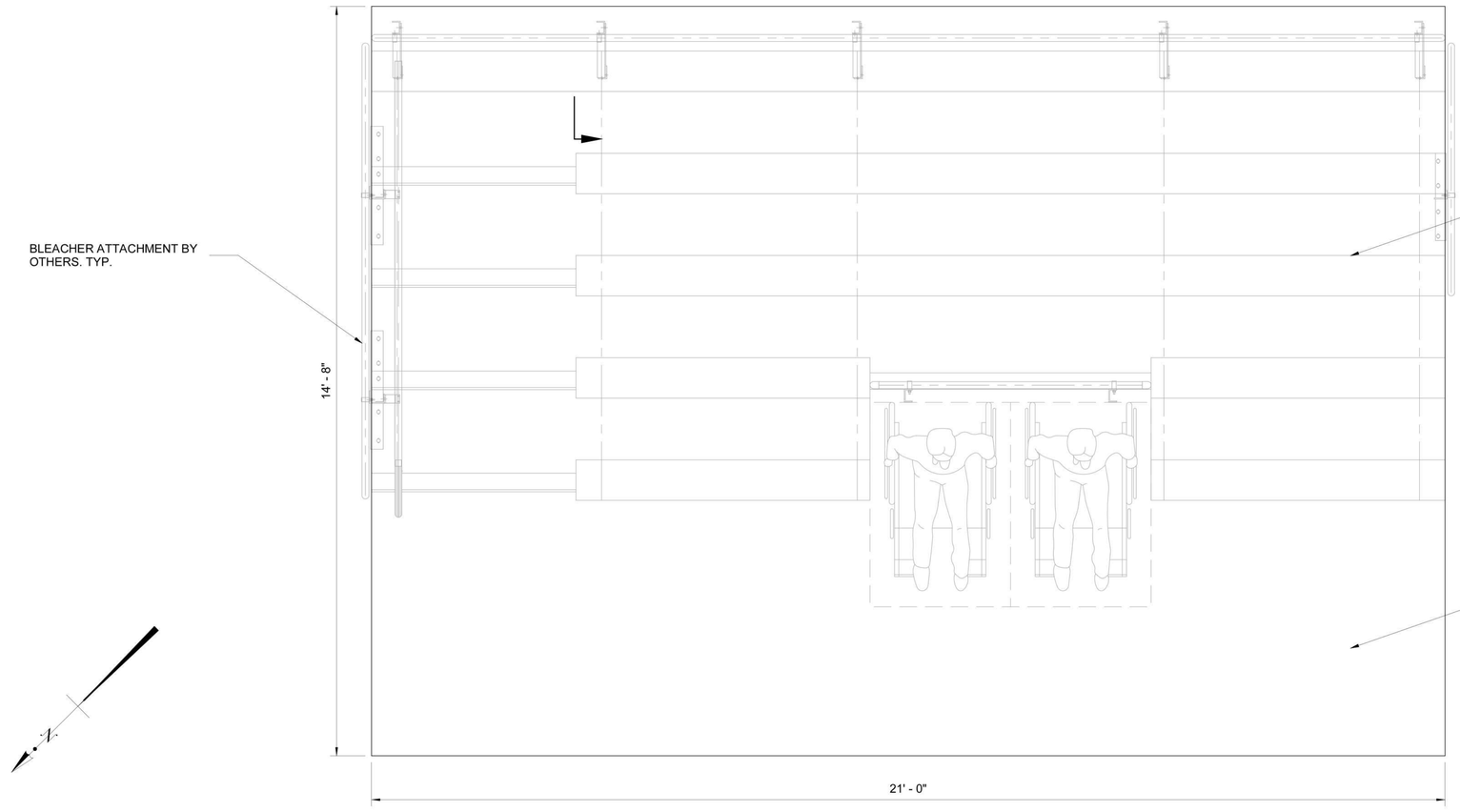
TYP. A5 S104

NOTES:

1) REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND LOCATION OF BLEACHER.
2) SEE SHEETS S004 & S005 FOR CONCRETE REINFORCING DETAILS.
3) SEE SOIL REPORT FOR SUBGRADE PREPARATION.

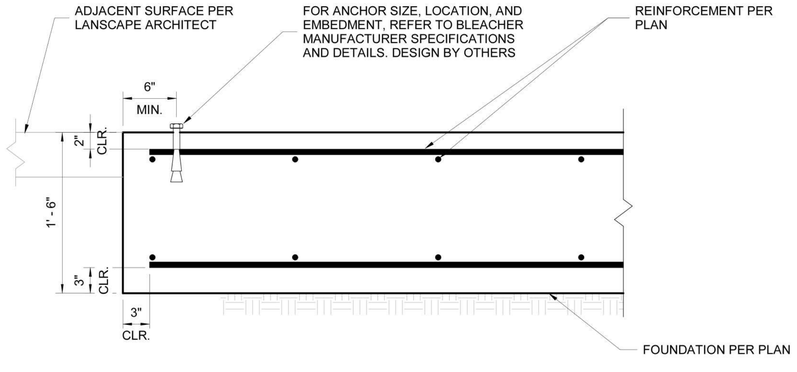


NOTE: CONTRACTOR SHALL PROVIDE PREPARED SUBGRADE IN ACCORDANCE WITH THE GEOTECH REPORT. BLEACHERS AND SLAB BY OTHERS, NOT IN SCOPE. CONTRACTOR SHALL COORDINATE WORK WITH BLEACHER INSTALLER. SEE ADDITIONAL NOTES ON CONSTRUCTION PLAN.

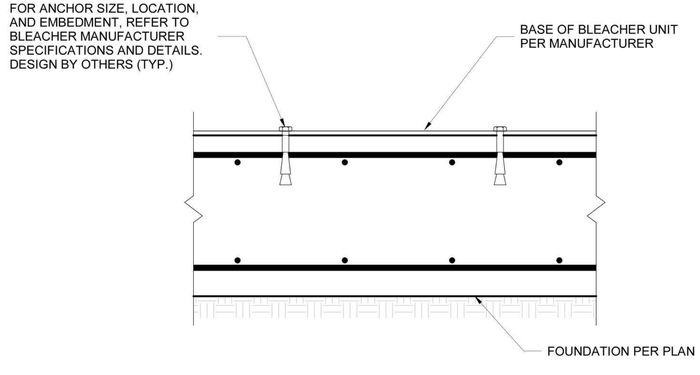
E1 BLEACHER FOUNDATION PLAN

NOT TO SCALE

FOR REFERENCE. BY OTHERS, NOT IN SCOPE. SEE NOTE ABOVE.



EDGE OF SLAB BLEACHER ANCHORAGE DETAIL



INTERIOR OF SLAB BLEACHER ANCHORAGE DETAIL

A5 MAT REINFORCEMENT DETAIL

NOT TO SCALE | E1/ S104

PROJECT STATUS: BID SET
PROJECT ISSUE DATE: 08/05/2021

BUREAU OF ENGINEERING
OFFICIAL RECORD

REGISTERED PROFESSIONAL ENGINEER MANAN J. BHALJA S 6573 STRUCTURAL STATE OF CALIFORNIA

BUREAU OF ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

ENGINEERING CITY OF LOS ANGELES

BUREAU OF ENGINEERING

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP CITY ENGINEER DATE: 6/4/2021

	DESIGN GROUP	LIC. NO. S-6573	DATE
ENGINEER:	MANAN BHALJA, S.E. MB	S-6573	6/4/2021
DESIGNED BY:	MANAN BHALJA, S.E., JORGE ARREOLA		6/4/2021
DRAWN BY:	JORGE ARREOLA		6/4/2021
CHECKED BY:	MELVIN AGAGAS, S.E., SHIRISH MISTRY, S.E.		06/07/2021
APPROVED BY:	SHAILESH "SUNNY" PATEL, S.E.		

CLIENT: DEPARTMENT OF RECREATION AND PARKS
GENERAL: MICHAEL A. SHULL

SHEET TITLE: BLEACHER FOUNDATION - PLAN AND DETAILS

PROJECT: SHELDON ARLETA PARK

ADDRESS: 12455 WICKS STREET SUN VALLEY, CA 91352

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. S104

SHEET 68 OF SHEETS 74

TTLB TEMPLATE REVISION DATE: 4/2016

REVISION DATES: (DESIGN STAGE ONLY)

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ELECTRICAL SPECIFICATIONS

DIVISION 1.
GEBNERAL PROVISIONS FOR DEPARTMENT OF RECREATIONS AND PARKS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTIONS. THE LOS ANGELES CITY ELECTRICAL CODE (LATEST EDITION) ARE MADE A PART OF THESE PLANS AND SPECIFICATIONS.

WHERE CONFLICTS OCCURS BETWEEN DIVISION 1 DEPARTMENT OF RECREATION AND PARKS AND THE SSPWC, THE DIVISION 1 DEPARTMENT OF RECREATION AND PARKS DEPARTMENT SHALL TAKE PRECEDENCE. CATALOG SPECIFICATIONS WHEN DESCRIBED BY MODEL NUMBER ARE HEREBY MADE A PART OF THESE SPECIFICATIONS. WHERE OPTIONS FOR MATERIALS AND OR METHODS APPEARS IN THE STANDARD SPECIFICATIONS, OR THE LOS ANGELES ELECTRICAL CODE, THE OPTION DEFINED HEREIN SHALL BE USED. ANY DISCREPANCIES SHALL BE RESOLVED WITH THE FINAL DECISION MADE BY THE GENERAL MANAGEROF THE DEPARTMENT OF RECREATION AND PARKS OR AUTHORIZED REPRESENTATIVE.

1. GENERAL SCOPE OF WORK:

WORK IN THIS CONTRACT TO INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE LIGHTING AND ELECTRICAL DISTRIBUTION SYSTEM. COMPLETE AND READY FOR USE, IN ACCORDANCE WITH THESE CONTRACT DRAWINGS AND THESE SPECIFICATIONS.

2. CLEANING, INSTALLATION AND REMOVAL OF RUBBISH:

BESIDES THE GENERAL CLEANING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE FOLLOWING SPECIAL CLEANING FOR ALL TRADES SHALL BE DONE AT THE COMPLETION OF THE WORK AND DURING INSTALLATION.

(A.) CLEAN ALL ELECTRICAL EQUIPMENT AND DEVICES. REMOVE STAINS, DUST, DIRT, PLASTER, PAINT AND ETC.

(B) REMOVE ALL SPOTS, SOILS, PLASTERS AND PAINTS, SOILED DURING CONSTRUCTION, FROM ALL EXISTING WORK AND CLEAN TO ORIGINAL CONDITION.

(C) PROTECT AND CLEAN ALL FIXTURES AND EQUIPMENT.

3. CONSTRUCTION WATER, LIGHT AND POWER:

(A) THE DEPARTMENT WILL FURNISH AT NO COST TO CONTRACTOR WATER AND ELECTRICITY AS IT EXIST ON THE SITE. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TEMPORARY LINES, FIXTURES AND EQUIPMENT FOR WATER AND ELECTRICITY AND REMOVE SAME AT COMPLETION OF WORK AT HIS/HER OWN EXPENSE.

(B) THE DEPARTMENT WILL NOT BE HELD RESPONSIBLE FOR FAILURE OF EXISTING SOURCES TO SUPPLY CONTINUOUS WATER OR POWER, NOR WILL THE DEPT. BE HELD RESPONSIBLE FOR THE EXISTING SOURCES TO SUPPLY ADEQUATE DEMAND AS REQUIRED BY THE CONSTRUCTION OF THIS WORK.

4. MAIN SERVICE:

(A) REQUIRED:

1. UNDERGROUND SERVICE CONDUIT FOR LIGHT AND POWER FROM MAIN SWITCHBOARD TO PROPERTY LINE TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE DEPARTMENT OF WATER AND POWER. CONDUITS SHALL HAVE A MINIMUM 3" CONCRETE COVER.

(B). COORDINATE ALL LADWP WORK AS FOLLOWS:

1. UNDERGROUND SERVICE CONDUITS FROM PROPERTY LINE TO UTILITY SOURCE INSTALLED BY THE DEPARTMENT OF WATER AND POWER. UTILITY FEES TO BE PAID FOR BY LA RECREATION AND PARKS.

2. MAIN SERVICE UNDERGROUND CONDUCTORS FROM UTILITY SOURCE TO MAIN SWITCHBOARD.

3. CURRENT TRANSFORMERS FOR SWITCHBOARD.

4. SERVICE CONNECTIONS TO TRANSFORMERS AND METERS.

5. METERS.

6. EXCESS CABLE CHARGES TO BE PAID BY LA RECREATION AND PARKS.

5. MAIN SWITCHBOARD:

(A) TYPE:

NEMA 3R FLOOR STANDING ENCLOSURE, DEAD FRONT, DEAD REAR, WITH ALL BUSSING, WIRING AND CONNECTIONS ACCESSIBLE FROM THE FRONT. ARRANGED IN ACCORDANCE WITH WIRING DIAGRAMS AND APPROVED SHOP DRAWINGS AS MANUFACTURED BY SQUARE D, GE, EATON OR EQUAL.

(B) CONSTRUCTION:

1. ALL BUSSING MATERIALS SHALL BE TIN PLATED COPPER PER NEMA STANDARDS.

2. VERTICAL SECTIONS SHALL HAVE FULL HEIGHT BUSSING AND WHERE SPACES FOR FUTURE USE DEVICES ARE SHOWN ON THE DRAWINGS. ALL THE NECESSARY MOUNTING HARDWARE AND PROVISIONS SHALL BE FURNISHED.

(C) SERVICE SECTION:

SHALL CONTAIN FIXED POSITION MAIN CIRCUIT BREAKER EQUIPPED WITH PROVISIONS FOR UTILITY COMPANY METERING IN STRICT ACCORDANCE WITH THE DEPARTMENT OF WATER AND POWER REQUIREMENTS. THE MAIN CIRCUIT BREAKER SHALL BE TRIP FREE, THERMAL MAGNETIC, MOLDED CASE TYPE, BY SQUARE D TYPE LAL 42,000 AIC RMS SYMMETRICAL OR EQUIVALENT GE, EATON OR EQUAL.

THERE SHALL BE MEANS TO LOCK EACH MAIN CIRCUIT BREAKER IN THE OPEN POSITION WITH A PADLOCK. THE DEPARTMENT OF WATER AND POWER WILL FURNISH THE LOCK AND OPEN THE MAIN BREAKER WHEN REQUIRED BY STATION MAINTENANCE OR REPAIR.

(D) DISTRIBUTION SECTION:

SHALL CONTAIN THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER OF THE REQUIRED VOLTAGE & AMPERAGE WITH A MINIMUM 25,000 RMS SYMMETRICAL SHORT CIRCUIT INTERRUPTING CAPACITY BY SQUARE D, TYPE LAL, EQUIVALENT GE, EATON OR EQUAL, UNLESS NOTED OTHERWISE ON THE PLAN.

(E.) IDENTIFICATION:

ENGRAVE LAMINATED PLASTIC NAMEPLATES TO BE PROVIDED FOR EACH DEVICE ON THE SWITCHBOARD. NAMEPLATES TO BEAR THE DESIGNATION OF THE LOAD CONTROLLED.

(F.) TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MFRS. TORQUING REQUIREMENTS ARE NOT INDICATED. USE TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A.

(G.) MOUNTING INDOOR TYPE:

SECURELY BOLTED TO FLOOR AND WALL AND PLUMB AND SQUARE. PROVIDE 3" RAISED CONCRETE SLAB FOR MOUNTING SWITCHGEAR LOCATED ON THE GROUND FLOOR. DIMENSION OF RAISED CONCRETE SLAB TO BE THE SAME AS THE SWITCHGEAR. VERIFY SITE SPECIFICATION INSTALLATION WITH RAP ENGINEERS/PROJECT MANAGER.

(H.) MOUNTING OUTDOOR TYPE:

SHALL BE NEMA 3R, GAUGE 10 METAL ENCLOSURE UNLESS NOTED OTHERWISE ON THE PLAN.

(I.) SHOP DRAWINGS:

BEFORE ANY FABRICATION OF SWITCHGEAR IS BEGUN, SHOP DRAWINGS INDICATING THE MATERIALS AND DETAILS OF CONSTRUCTION AND EQUIPMENT AND UL LISTING SHALL BE APPROVED BY THE DEPARTMENT OF WATER AND POWER PRIOR TO THEIR SUBMITTAL TO THE DEPT. OF RECREATION AND PARKS.

(J.) GROUNDING:

PROVIDE AND INSTALL A DRIVEN GROUND COPPER ROD 5/8" IN DIAMETER BY 10 FT. LONG FOR SERVICE GROUNDING REQUIREMENTS LOCATED INSIDE THE ENCLOSURE. ALSO PROVIDE AND USE OTHER GROUNDING ELECTRODES AS INDICATED ON PLAN OR AS REQUIRED BY CODE. EACH ELECTRODE SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. THE BONDING JUMPERSHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CODE, ARTICLE 250. TIGHTEN CONNECTORS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL STD. 486 TO ASSURE PERMANENT AND EFFECTIVE GROUND.

6. PANELBOARDS:

(A.) PANELBOARDS SHALL BE CIRCUIT BREAKER TYPE WITH BOLT-ON TYPE, TRIP FREE CIRCUIT BREAKERS. PANELBOARDS SHALL BE FURNISHED WITH COPPER BUSSING AND MAIN LUGS OR MAIN BREAKER AND ALL BRANCH CIRCUIT BREAKER AS INDICATED ON THE SCHEDULES. EACH BRANCH CIRCUIT BREAKERS SHALL HAVE PERMANENT TYPE PLASTIC OR METAL NUMBERS TO IDENTIFY THE CIRCUIT PROTECTED. MIN. SIZE SHALL BE 20"W X 5 3/4"D, HEIGHT AS REQUIRED. PANELBOARD SHALL BE SQ. D, GE, EATON OR EQUAL.

(B.) IDENTIFICATION SHALL HAVE ENGRAVED LAMINATED PLASTIC NAMEPLATES. SCHEDULES SHALL BE TYPEWRITTEN AND SHALL DESIGNATE THE AREA OR EQUIPMENT SERVED BY EACH CIRCUIT MOUNTED IN A CARD HOLDER ON THE INSIDE OF THE DOOR AND COVERED WITH GLASS OR CLEAR PLASTIC.

(C.) SHOP DRAWINGS ARE REQUIRED. THEY SHALL INDICATE ALL THE DETAILS OF CONSTRUCTION AND EQUIPMENT. ALL ITEMS SUBMITTED FOR INSTALLATION SHALL BEAR A UL LABEL AND LISTED FOR THE PURPOSE.

(D.) CIRCUIT BREAKERS SHALL HAVE A MINIMUM OF 10,000 AMPS RMS SYMMETRICAL FOR 120/240 VOLTS AND 22,000 AMPS FOR 277/480 VOLTS SYSTEM UNLESS NOTED ON THE PLAN.

(E.) MOUNTING SHALL BE FLUSH WITH SURROUNDING WALLS UNLESS SPECIFICALLY NOTED TO BE SURFACE MOUNTED ON THE PLAN. MAXIMUM HEIGHT OF THE HIGHEST CIRCUIT BREAKER OR CONTROL DEVICES SHALL NOT BE MORE THAN 6 FT. ABOVE THE SURROUNDING FINISH FLOOR.

(F.) TIGHTEN CONNECTORS AND TERMINALS INCLUDING SCREWS AND BOLTS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS TO COMPLY WITH TIGHTENING TORQUE SPECIFIED IN UL STANDARDS 486 A & B.

7. RAINPROOF ENCLOSURES FOR SWITCHBOARD AND/OR PANELBOARDS. SEE DETAIL DWG.

(A.) RAINPROOF ENCLOSURE FOR OUTDOOR INSTALLATION SHALL BE FREE STANDING NEMA TYPE 3R GAUGE 10 CONSTRUCTION (EXCEPT GAUGE 12 STAINLESS STEEL FOR IRRIGATION CONTROLLER SERVICE) ENCLOSURE OF SUITABLE DIMENSION. ALL BOLT HEADS EXPOSED ON THE EXTERIOR OF ENCLOSURE SHALL BE ROUND HEAD GALVANIZED TYPE BY HOFFMAN ENGINEERING CO. OR MYERS POWER PRODUCTS, IEM OR EQUAL.

(B.) DOORS SHALL BE CUSTOM EQUIPPED WITH STRONG PADLOCKABLE STEEL COVER TO PROTECT THE OPERATING HANDLES. PAD LOCKABLE COVERS SHALL ACCOMMODATE THE DEPARTMENT OF RECREATION AND PARKS LOCKS. PROVIDE TOP AND BOTTOM DOOR LOUVERS.

(C.) MOUNTING: OUTDOOR TYPE SHALL BE SECURELY BOLTED TO A STEEL REINFORCED CEMENT CONCRETE PAD EXTENDING 6 INCHES BEYOND THE PANEL ENCLOSURE IN BOTH LENGTH AND WIDTH DIMENSIONS AND 36 INCHES IN FRONT OF PANEL ENCLOSURE. THE PAD SHALL EXTEND 6" ABOVE AND 6" BELOW FINISHED GRADE. REINFORCING STEEL SHALL BE #4 REBAR LAID LENGTHWISE AND CROSSWISE 12" O.C. WITH 3 INCH CLEAR COVER TO SUBGRADE, AND SECURELY TIED AT EACH POINT OF CONTACT.

SWITCHGEAR INSTALLATION ON EXISTING SLABS:
SECURELY BOLTED TO A STEEL REINFORCED CONCRETE PAD EXTENDING 6" BEYOND THE PANEL ENCLOSURE IN BOTH REAR & SIDES AND 0' IN FRONT OF ENCLOSURE. PAD SHALL EXTEND 3" ABOVE & 6" BELOW FINISH GRADE. REINFORCING STEEL SAME AS ABOVE.

(D.) LIGHTS AND RECEPTACLES: PROVIDE AND INSTALL A SURFACE MOUNTED LED FIXTURE, WP WALL SWITCH AND A 20 AMP RATED GFI TYPE RECEPTACLE INSIDE THE ENCLOSURE FED FROM ONE 20A-1P CIRCUIT BREAKER WIRED WITH 2#12 THHN/THWN CU IN 1/2" CONDUIT.

8. CONTROLS:

(A.) TYPES

1. CIRCUIT BREAKERS - SHALL BE THERMAL MAGNETIC. EACH BREAKER SHALL BE EQUIPPED WITH A DEVICE FOR INDIVIDUAL PADLOCKING.

2. TIME SWITCHES - SHALL BE AN ET90215CR INTERMATIC. CONTROL SHALL HAVE AN ASTRO-DIAL, TWO CHANNEL FEATURE, SKIP-A-DAY, OFFSET TO SUNRISE AND/OR SUNSET AND MANUAL OVERRIDE INDEPENDENTLY PROGRAMMABLE FOR EACH CHANNEL. IT SHALL BE SURFACE MOUNTABLE OR SHALL BE IN NEMA 3R FOR OUTDOOR INSTALLATION.

3. LIGHT SWITCH TIMER - SHALL BE PARAGON MODEL NO. ET1100 SERIES. IT SAHLL BE SOLID STATE WITH ADJUSTABLE TIMER RANGE FROM ONE MINUTE TO 18 HOURS. THE CONTROL SHALL BE TAMPER-PROOF WITH OUT-OF-SIGHT PROGRAMMING DIAL. THE CONTROL SHALL BE RATED UP TO 1100 WATTS AND CAPABLE OF OPERATING BETWEEN 24 VAC AND 277 VAC.

4. LOCAL SWITCHES - SHALL BE SPECIFICATION GRADE, HUBBELL 1221-I SERIES EQUIVALENT LEVITON MODEL OR EQUAL.

5. LIGHTING CONTACTORS - AMPERE RATING, NUMBER OF POLES, LINE VOLTAGE, CONTROL VOLTAGE, MOMENTARY OR MAINTAINED CONTACT AS INDICATED ON DRAWINGS, OR AS REQUIRED, SQUARE D CLASS 8903, OR EQUIVALENT AUTOMATIC SWITCH CO. MODEL OR EQUAL.

6. PUSH BUTTON STATIONS - HEAVY DUTY CONTROL STATIONS, LOCATE IN RECREATION DIRECTORS OFFICE (UNLESS OTHERWISE INDICATED) FOR REMOTE CONTROL OF FIELD LIGHTING. SQUARE D CLASS 9001, TYPE B IN NEMA 4 ENCLOSURE. FOR OUTSIDE INSTALLATION REES 04960-415 MUSHROOM PLUNGER OR EQUAL. LOCATE PUSH BUTTON AS SPECIFIED ON THE PLAN OR DETAIL.

(B.) IDENTIFICATION - ALL CONTROL DEVICES SHALL BE IDENTIFIED BY ENGRAVED PLATES DESIGNATING THE EQUIPMENT CONTROLLED. MOTORS AND EQUIPMENT SHALL BEAR NEAT, LEGIBLE AND PERMANENT IDENTIFICATION CORRESPONDING WITH THAT ON THE CONTROL DEVICES USING ENGRAVED LAMINATED PLASTIC NAMEPLATES AFFIXED WITH A MINIMUM OF TWO ESCUTCHEON PINS OR SCREWS.

(C.) LOCATIONS - FOR OUTDOOR INSTALLATION, TIME SWITCHES AND CONTACTORS SHALL BE LOCATED IN A SEPARATE PARTITIONED SPACE INSIDE THE RAINPROOF ENCLOSURE, OR AS INDICATED IN THE PLAN.

9. BOXES:

(A.) TYPES: WEATHERPROOF CAST BOXES FOR OUTDOOR AND SURFACE WIRING AND WHERE INDICATED ON THE DRAWINGS BY SYMBOL "WP", CROUSE-HINDS FD OR RUSSELL-STOLL FD SERIES OUTLET BOXES OR EQUAL. CONCRETE PULL BOX WITH BOLT DOWN STEEL COVER IS PERMITTED FOR UNDERGROUND INSTALLATION. BROOKS PRODUCT H2O RATED WITH GALVANIZED FRAME OR EQUAL, OR AS INDICATED ON THE PLAN. PULL BOXES TO BE SEIZED PER NEC.

(B.) ACCESSORIES: WEATHERPROOF FOR CROUSE-HINDS FD SERIES OUTLET BOXES OR RUSSELL-STOLL FD SERIES OR EQUAL.

(C.) UNDERGROUND PULL BOXES. AVOID INSTALLATION AT THE LOWEST SPOT OF THE SURROUNDING AREAS. PULL BOX SHOULD HAVE AT LEAST 12" LAYER OF PEA GRAVEL BENEATH THE BOX.

10. RECEPTACLES:

(A.) TYPES: ALL RECEPTACLES SHALL BE SPECIFICATION GRADE AND SHALL MEET NEMA WD-1-1974 TESTS.

(B.) FLUSH WALL TYPE, HUBBELL 5262-I, 15 AMPERE, 125 VOLTS OR HUBBELL 8300-I 20 AMPERE, 125 VOLTS, OR EQUIVALENT LEVITON MODEL OR EQUAL.

(C.) SHALL BE SCREW-TERMINAL TYPE. NO PUSH-IN TYPE CONNECTIONS ARE PERMITTED.

11. OUTLET PLATES:

(A.) SHALL BE STAINLESS STEEL FOR ALL RECEPTACLE AND LIGHT SWITCH, SIGNAL AND COMMUNICATION OUTLETS.

(B.) SHALL BE ENGRAVED PLATES FOR SPECIAL EQUIPMENT, MOTORS, VOLTAGE OTHER THAN 120 VOLT AND GANGED SWITCHES.

12. INSTALLATION OF POLES:

(A.) TYPE SHALL BE ROUND TAPERED GALVANIZED STEEL UNLESS OTHERWISE INDICATED. POLE HEIGHT SHALL BE LESS THAN 30' UNLESS NOTED ON THE PLAN.

(B.) ERECTION: IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, PLUMB AND PROPERLY ALIGNED. BASE PLATES SHALL BE GROUTED USING AN APPROVED STANDARD COMMERCIAL NON-SHRINK GROUTING MORTAR WITH L.A. RESEARCH REPORT NUMBER. THE NON-SHRINK MORTAR SHALL BE HELD BACK ONE INCH FROM EDGES OF BASE PLATES, AND THE SPACE THEN FILLED WITH GROUT COMPOSED OF ONE PART LOW ALKALI PORTLAND CEMENT TO TWO PARTS WASHED SAND, BEVELED AND TROWELED SMOOTH. EXPOSED SURFACES OF MORTAR SHALL BE WATER CURED WITH WET BURLAP FOR SEVEN DAYS.

(C.) GROUNDING: SECURELY GROUND ALL PARKING LOT LIGHTING POLES WITH APPROVED GROUNDING BUSHINGS AND GROUNDING CLAMPS.

(D.) CONDUITS ENTERING AND/OR LEAVING POLE FOOTING SHALL BE PVC SCHED 80 TO A MINIMUM DISTANCE OF 3'-0" FROM FOOTINGS.

(E.) TACK WELDING OF NUTS TO WASHER AND WASHER TO BASE PLATE IS REQUIRED.

13. CONDUIT:

(A.) REQUIRED: ALL WIRING SHALL BE IN RIGID OR PVC COATED STEEL CONDUIT EXCEPT AS FOLLOWS:

1. PVC MAYBE USED UNDERGROUND FROM RGS DUE TO METHANE ZONE. CONDUIT STUBS LOCATED 3 FEET OUTSIDE FOOTING LINES. CONDUIT SEALS SHOULD BE USED FOR CONDUIT THAT STUBS UP FROM UNDERGROUND.

2. EMT MAYBE USED ABOVE GROUND INSIDE BUILDINGS 10'AFF WHERE NOT ENCASED IN MASONRY OR CONCRETE AND NOT SUBJECT TO PHYSICAL DAMAGE.

(B.) TYPES:

1. RIGID STEEL CONDUIT: IN ACCORDANCE WITH USA STD C80.1 AND ASTM B-6.

2. ELECTRICAL METALLIC TUBING: IN ACCORDANCE WITH USA STD C80-3 & ASTM B-6.

3. PVC CONDUIT: SHALL CONFORM TO NEMA STANDARD TC-6-1967, WC-1094 AND UL STANDARD 651, 1974 HEAVY WALL SCHEDULE 40 BURIED NOT LESS THAN 24 INCHES BELOW GRADE.

4. PVC EXTERNALLY COATED RIGID STEEL CONDUIT, RIGID STEEL ZINC COATED WITH ADDITIONAL COATING OF PVC CONFORMING TO ANSI C-80 & NEMA RN1.

(C.) FITTINGS AND ACCESSORIES:

1. FOR RIGID STEEL CONDUIT: APPROVED TYPES; ERICSON COUPLING OR THREADLESS CONNECTORS FOR JOINING RUNS. GROUNDING BUSHING SHALL BE THOMAS & BETTS, APPLETON OR EQUAL MALLEABLE IRON INSULATED GROUNDING BUSHINGS, UL FILE E14814A.

BUREAU OF ENGINEERING
OFFICIAL RECORD

30% BRIDGING DOCUMENT DESIGN BUILD PACKAGE

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837

INDEX NO. RP-300119

BUREAU OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING
CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE
ENGINEER:	LIN CONSULTING, INC. GEORGE WANG, Lic. No. E9367	8/5/21
DESIGNED BY:	BY/RG	8/5/21
DRAWN BY:	VJ/SH	8/5/21
CHECKED BY:	REY GALURA	8/5/21
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	8/5/21

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: ELECTRICAL SPECIFICATION

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

Project Status BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. E001
SHEET 69 OF SHEETS 74

PLOTTED: 8/24/2021 12:01 PM

ELECTRICAL SPECIFICATIONS (CONT.)

2. FOR ELECTRICAL METALLIC TUBING: COMPRESSION GLAND OR STEEL SET SCREW TYPE COUPLINGS AND CONNECTORS WITH INSULATED THROAT.

(D.) SIZES: MINIMUM 3/4" CONDUIT UNLESS NOTED ON THE PLAN.

(E.) CONCRETE COVER:

U.O.N. UNDERGROUND CONDUIT RUNS IN RECREATION AND PARKS PROPERTY INSTALLED WITH SCHEDULE 40 PVC SHALL HAVE A MINIMUM 6" DETECTABLE "CAUTION" TAPE, 12" ABOVE CONDUIT, OVER ITS ENTIRE LENGTH (EXCEPT UNDER CONCRETE SIDEWALKS), AND SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE PREVAILING CODE BUT NOT LESS THAN SHOWN ON THE PLAN.

14. CONDUIT INSTALLATION:

(A.) ALL CONDUITS SHALL BE CONCEALED EXCEPT WHERE OTHERWISE INDICATED ON THE DRAWINGS.

(B.) PVC COATED STEEL CONDUIT WHICH WILL BE BURIED IN THE GROUND SHALL HAVE WATER TIGHT JOINTS. JOINTS SHALL BE ASSEMBLED WITH LEAD PLATE (ANTI-SEIZE COMPOUND).

(C.) INSTALL EXPANSION FITTINGS IN ALL RACEWAY WHENEVER EXPANSION JOINTS ARE CROSSED. FITTINGS SHALL BE EQUAL TO "OZ" TYPE "XZ" OR "TX".

(D.) NO HORIZONTAL CONDUIT SHALL BE INSTALLED IN CONCRETE SLABS-ON-GRADE. SLEEVES FOR CONDUIT PENETRATING FLOORS OR CONCRETE SLAPS SHALL TERMINATE 3 INCH ABOVE THE FLOOR. CONDUITS SHALL BE PROTECTED FROM CORROSION BY ONE OF THE FOLLOWING METHODS. (EXTEND 3" ABOVE AND 3" BELOW TOP OF CONCRETE.)

1. PVC EXTERNALLY COATED STEEL CONDUIT BY ROBROY INDUSTRIES.

2. SPIRAL WRAP WITH 40 MIL HALF LAP PLASTIC TAPE.

3. PVC SLEEVE.

(E.) TOPS OF UNDERGROUND CONDUIT RUNS OUTSIDE OF BUILDING OR UNDER CONCRETE SLABS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE, NOR LESS THAN THAT REQUIRED BY THE DEPARTMENT OF WATER AND POWER. UNDERGROUND CONDUIT SHALL NOT PASS OVER TANKS OR OTHER UNDERGROUND EQUIPMENT OR THROUGH FOOTINGS EXCEPT AS DETAILED ON THE STRUCTURAL DRAWINGS.

(F.) ALL CONDUIT BENDS INSTALLED UNDERGROUND SHALL BE THE LONG RADIUS TYPE WITH RADII NOT LESS THAN 10 TIMES THE INTERNAL DIAMETER OF THE CONDUIT AND WITH NOT MORE THAN TWO 90° BENDS AND ONE 45° SWEEP IN ANY RUN. EXCEPTION: FOR POWER AND LIGHT CONDUIT ABOVE GROUND, FACTORY ELLS ARE PERMITTED.

(G.) EACH RUN SHALL BE TESTED IMMEDIATELY AFTER INSTALLATION TO ASSURE FREEDOM FROM OBSTRUCTION AND EACH END PLUGGED AFTER THE TESTING IS COMPLETED. A GALVANIZED IRON PULL WIRE NO. 12 AWG OR 1 /8-INCH NYLON POLYPROLENE CORD SHALL BE INSTALLED IMMEDIATELY AFTER CONDUIT INSTALLATION IN EACH CONDUIT IN WHICH THE CONDUCTORS WILL NOT BE IMMEDIATELY INSTALLED.

(H.) CONDUITS "JACK-THRU" AND/OR BORED THRU UNDERGROUND SHALL BE MINIMUM 1". PULL IN PVC SCHED 40 THROUGH BORING HOLE.

1. CONDUITS IN UNDERGROUND PULL BOXES SHALL BE SEALED WITH "LHD"-1# OR 5# DUCT SEAL AS MANUFACTURED BY DOTTIE CO. OR APPROVED EQUAL.

15. CONDUCTORS:

(A.) TYPE THHN/THWN, 600 VOLTS INSULATION PER UL 83 FOR ALL GENERAL WIRING SUBJECT TO TEMPERATURES AT 75°C MINIMUM, WET OR DRY LOCATIONS.

(B.) TYPES:

1. COPPER WIRE FOR ALL CONDUCTORS.

2. NO CONDUCTORS SMALLER THAN NO. 12 AWG EXCEPT FOR CONTROL WIRES WHICH SHALL BE NO. 14 AWG OR AS INDICATED ON THE PLAN.

3. CONDUCTORS FROM BASE OF NEW OR EXISTING POLES UP TO LUMINAIRES SHALL BE NO. 10 AWG MINIMUM UNLESS OTHERWISE NOTED ON THE PLAN. PROVIDE APPROXIMATELY 18" SLACK IN HAND HOLE AND PULL BOXES.

4. FOR IRRIGATION CONTROL WIRES, REFER TO IRRIGATION SPECIFICATIONS.

(C.) SPLICES:

1. BRANCH AND FEEDER CONDUCTOR JOINTS SHALL BE LOCATED ONLY IN OUTLET BOXES, FIXTURES OR PULL BOXES. CONDUCTOR JOINTS SHALL NOT BE MADE IN CONDUIT FITTINGS.

2. ALL SPLICES IN UNDERGROUND PULL BOXES SHALL BE SCOTCH BAGGED AND WATER TIGHT OR USE POLARIS, DRYCON CONNECTOR OR EQUIVALENT.

(D.) COLOR CODE:

1. FOR POLYPHASE CIRCUITS, IDENTIFY EACH PHASE THROUGHOUT THE CIRCUIT WITH DESIGNATION PHASE A (BLACK), PHASE B (RED) AND PHASE C (BLUE), NEUTRAL (WHITE) FOR 208/120V, 3 PHASE; PHASE A (BLACK), HIGH-LEG (ORANGE), PHASE C (BLUE), NEUTRAL (WHITE) FOR 240/120V 3 PHASE; PHASE A (BROWN), PHASE B (ORANGE), PHASE C (YELLOW), NEUTRAL (WHITE) FOR 480/277V, 3 PHASE.

2. FOR CONDUCTOR SMALLER THAN NO. 6 AWG COLOR CODING SHALL BE ACCOMPLISHED BY INHERENT INSULATION COLOR. TAGGING PAINT OR OTHER MARKINGS SHALL NOT BE USED FOR COLOR IDENTIFICATION.

(E.) INSPECTION:

CONTRACTOR SHALL NOTIFY THE GENERAL MANAGER OR AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO START OF PULLING WIRE THROUGH ANY OF THE UNDERGROUND CONDUIT RUNS. THE CONTRACTOR SHALL START PULLING WIRE ONLY AFTER THE AUTHORIZED REPRESENTATIVE INSPECTS AND FIND THAT: THE WIRE CONTAINS NO SPLICES, THE NEUTRAL WIRE IS WHITE AND THE EQUIPMENT GROUND WIRE IS GREEN.

16. TAGGING:

REQUIRED: ON BOTH HOT AND NEUTRAL WIRES OF ALL CIRCUIT IN SWITCHBOARD AND PANEL BOARDS, AT PULL, JUNCTION AND OUTLET BOXES AT EACH DEVICE OR LIGHTING FIXTURE. TAGGING SHALL PROVIDE POSITIVE AND PERMANENT IDENTIFICATION AND SHALL BE SCOTCH NUMERAL TAPE BY THE MINNESOTA MINING AND MANUFACTURING CO.

17. EQUIPMENT AND ELECTRICAL CONNECTIONS:

(A.) SEE DIVISION 1 SECTION 38 FOR MATERIAL TESTING.

(B.) PROVIDE ALL INSTRUMENTS, EQUIPMENT AND LABOR REQUIRED FOR THE SPECIFIED TESTS. CONDUCT ALL TESTS IN THE PRESENCE OF THE GEN. MANAGER OR AUTHORIZED REPRESENTATIVE. CONDUCT THE TEST AT SUCH TIME AS THE GEN. MANAGER MAY DIRECT OR AS SPECIFIED. TESTS FAILING TO CONFORM TO THE REQUIREMENTS OF THE DRAWING AND SPECIFICATIONS, AND ANY PIECE OF EQUIPMENT THAT FAILS THE TEST DESCRIBED HEREIN WILL BE REJECTED AND SUITABLE EQUIPMENT SHALL BE PROVIDED AND INSTALLED. TABULATE AND FORWARD TO THE PROJECT MANAGER IN TRIPLICATE ALL THE PERTINENT TEST DATA. INCLUDE THE DATE OF THE TEST, IDENTIFICATION OF ALL ITEMS TESTED, READINGS FOR EACH TEST, COMMENTS WHERE REQUIRED AND THE SIGNATURES OF THE INDIVIDUAL CONDUCTING THE TEST AND OF THE GEN. MANAGER'S REPRESENTATIVE OBSERVING THE TEST. FORWARD ALL THE TEST DATA TO THE PROJECT MANAGER WITHIN 10 DAYS OF THE TEST PERFORMANCE BUT IN NO CASE LATER THAN 5 DAYS BEFORE THE SCHEDULED FINAL INSPECTION. TEST INSTRUMENTS SHALL BE CALIBRATED WITHIN 12 MONTHS PRIOR TO TESTING.

(C.) THE FOLLOWING TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE DEPT. INSPECTOR OR REPRESENTATIVE. TABULATE TEST RESULTS FOR THE DEPT. OF RECREATION AND PARKS RECORDS.

1. CONDUCTORS 600-VOLT CLASS: AFTER WIRING IS COMPLETED AND CONNECTED FOR OPERATION, BUT PRIOR TO PLACING SYSTEMS IN SERVICE AND BEFORE ANY BRANCH CIRCUIT BREAKERS ARE CLOSED, PERFORM INSULATION RESISTANCE TESTS IN ALL CIRCUITS. MEASURE THE INSULATION RESISTANCE BETWEEN EACH CONDUCTORS AND GROUND. TAKE READINGS AFTER THE VOLTAGE HAS BEEN APPLIED FOR A MINIMUM OF ONE MINUTE. THE MINIMUM INSULATION RESISTANCE BASED ON THE ALLOWABLE AMPACITY OF THE CONDUCTOR AS FIXED BY NFPA 70 SHALL BE AS FOLLOWS:

AMPERES	OHMS
25 THROUGH 50	250,000
51 THROUGH 100	100,000
101 THROUGH 200	50,000
201 THROUGH 400	25,000

2. HIGH VOLTAGE CONDUCTORS (ABOVE 600 VOLTS): AFTER INSTALLATION AND BEFORE SPLICING AND TERMINATING, PERFORM A FIELD ACCEPTANCE TEST ON CABLES PRIOR TO TESTING. THE CABLES SHALL NOT BE CONNECTED TO ANY EQUIPMENT. THE TEST PROCEDURE SHALL BE IN ACCORDANCE WITH AEIC AND NEMA. FIELD ACCEPTANCE TEST SHALL BE 15 KV FOR DC FOR 15 MINUTES. IF CABLE FAILS TO PASS INITIAL TEST, PERFORM SUBSEQUENTACCEPTANCE TESTS UNTIL THE WORK IS IN COMPLIANCE WITH THE CONTRACT REQUIREMENTS.

3. PROVIDE GROUNDING ELECTRODES PER N.E.C.

18. LIGHTING FIXTURES:

(A.) TYPES:

1. AS INDICATED HEREINAFTER AND IN THE LIGHTING FIXTURE LIST, ALL FIXTURES MUST BE UL LISTED AND SUPPORTING MEMBERS SUCH AS RODS AND PIPES MUST BE APPROVED BY THE CITY OF LOS ANGELES ELECTRICAL TESTING LABORATORY.

2. ALL FIXTURES USED AS RACEWAYS SHALL CONFORM TO THE CODE REQUIREMENTS FOR MAXIMUM NUMBER OF CONDUCTORS PERMITTED. BOX TEMPERATURES SHALL NOT EXCEED 75°C ADJACENT TO THHN/THWN WIRE.

3. ALL FIXTURES SHALL BE UL LISTED FOR THE PURPOSE, WET LOCATION FOR OUTDOOR INSTALLATION, AND DAMP LOCATION FOR SHOWERS AND CANOPIES.

(B.) FITTINGS AND ACCESSORIES: AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.

(C.) DEVIATION SHALL BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

(D.) SPORTS LIGHTING FIXTURES: SUBMIT AN AIMING DIAGRAM FROM FIXTURE MANUFACTURER TO THE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL ENSURE THAT FIXTURES ARE INSTALLED IN ACCORDANCE TO APPROVED AIMING DIAGRAM.

19. RECORD DRAWINGS:

(A.) IMMEDIATELY AFTER WORK IS INSTALLED, CAREFULLY DRAW ON PRINTS IN RED INK ALL WORK WHICH IS INSTALLED AT VARIANCE WITH THE WORK AS INDICATED ON THE DRAWINGS. INDICATE BY MEASURED DIMENSION TO BUILDING CORNERS OR OTHER PERMANENT MONUMENTS THE EXACT LOCATION OF ALL CHANGES.

(B.) ACCURATE LOCATIONS OF ALL POLES, CONDUIT RUNS, WIRING, NAMES AND MODEL NUMBERS OF ACCEPTED SUBSTITUTE EQUIPMENT, ELECTRICAL OUTLETS AND OTHER EQUIPMENT AS INSTALLED SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS.

20. OPERATING MANUALS AND INSTRUCTIONS:

(A.) THE CONTRACTOR SHALL FURNISH TO THE CITY FOUR BOUND COPIES OF OPERATING AND MAINTENANCE MANUAL FOR ALL ELECTRICAL EQUIPMENT.

(B.) THE CONTRACTOR SHALL EXPLAIN IN DETAIL ALL MANUALS FOR THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT TO THE RECREATION AND PARKS MAINTENANCE PERSONNEL BEFORE COMPLETION AND ACCEPTANCE OF THE PROJECT.

ELECTRICAL GENERAL NOTES

THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMISSION OF BID TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND EXTENT OF THEIR WORK. SUBMISSION OF A PROPOSAL OR BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND PROPERLY FUNCTIONING SYSTEM.

IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL EQUIPMENT DESCRIBED. ANY INCONSISTENCY SHALL BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION FOR CLARIFICATION. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR, COORDINATE ALL WORK WITH OTHER TRADES AND COMPLY WITH ALL APPLICABLE CODES.

CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS PRIOR TO JOB START AND OBTAIN FINAL INSPECTION APPROVAL FROM THE DEPARTMENT OF BUILDING AND SAFETY PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL ELECTRICAL EQUIPMENT AND MATERIALS TO THE DEPARTMENT FOR APPROVAL PRIOR TO ORDERING AND SHALL BE RESPONSIBLE FOR ANY DELAYS INCURRED DUE TO REJECTED ITEMS.

ANY DAMAGES DONE IN THE COURSE OF CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE SATISFACTORY TO THE PROJECT MANAGER.

CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY AND MAYBE VARIED IN THE FIELD. MINIMUM CONDUIT SIZE SHALL BE 3/4-INCH UNLESS NOTED ON THE PLAN. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH THE ADJACENT FINISH.

CONTRACTOR SHALL FURNISH TO THE DEPARTMENT A VANDAL PROOF SCREW DRIVER FOR EACH TYPE OF VANDAL PROOF SCREWS USED IN THE PROJECT.

21. ANTI-GRAFFITI COATINGS

THE CONTRACTOR SHALL APPLY AN ANTI-GRAFFITI COATING TO ALL LIGHT POLE CONCRETE BASES. THE FOLLOWING ARE ACCEPTABLE PRODUCTS:

A. "SUPER-KOTE A-G5" SEALER MANUFACTURED BY VEN-CHEM COMPANY INC. P.O. BOX 3186, SANTA BARBARA, CALIFORNIA, PHONE (805) 967 - 7600 OR "MONOCHEM PERMASHIELD" BY FRAZEE PAINT CO. RESEARCH REPORT NO. 28080, PHONE (800) 826 - 9048.

B. THE "GRAFFITI RASOR SYSTEMS" MANUFACTURED BY RAINPROOF SYSTEMS, CITY OF COMMERCE, CA 90022, RESEARCH REPORT NO. 25035, PHONE (213) 887 - 8761.

C. "VANDAL GUARD" BY RAINGUARD PRODUCTS CO., 821 W. HYDE PARK BLVD., INGLEWOOD, CA 90302, PHONE (310) 670 - 2953.

D. OR APPROVED EQUAL.

22. SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED IN HARD COPIES (MINIMUM OF 3), AND SHALL BE IN COMPLETED GROUPS OF MATERIALS (I.E. ALL LIGHTING FIXTURES OR ALL SWITCHGEAR, ETC ...)

23. ELECTRIC VEHICLE CHARGING STATION (EVCS)

SEE E-004.1 FOR SPECIFICATIONS. SUBMIT COMPLETE EVCS SHOP DRAWINGS AND SPECIFICATIONS TO "LARAP" FOR REVIEW AND APPROVAL.

BUREAU OF ENGINEERING
OFFICIAL RECORD

30% BRIDGING DOCUMENT DESIGN BUILD PACKAGE

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REVISION DATES (DESIGN STAGE ONLY)

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. RP-300119

RAP FACILITY NO. 637

PROFESSIONAL ENGINEER — GEORGE WANG — No. E9367 — Exp. 09-30-23 — REGISTERED — STATE OF CALIFORNIA

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

GARY LEE MOORE, PE, ENV SP CITY ENGINEER

		DATE:
ENGINEER:	GEORGE WANG, Lic. No. E9367 LIN CONSULTING, INC.	8/5/21
DESIGNED BY:	BY/RG	8/5/21
DRAWN BY:	VJ/SH	8/5/21
CHECKED BY:	REY GALURA	8/5/21
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	8/5/21

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: ELECTRICAL SPECIFICATION

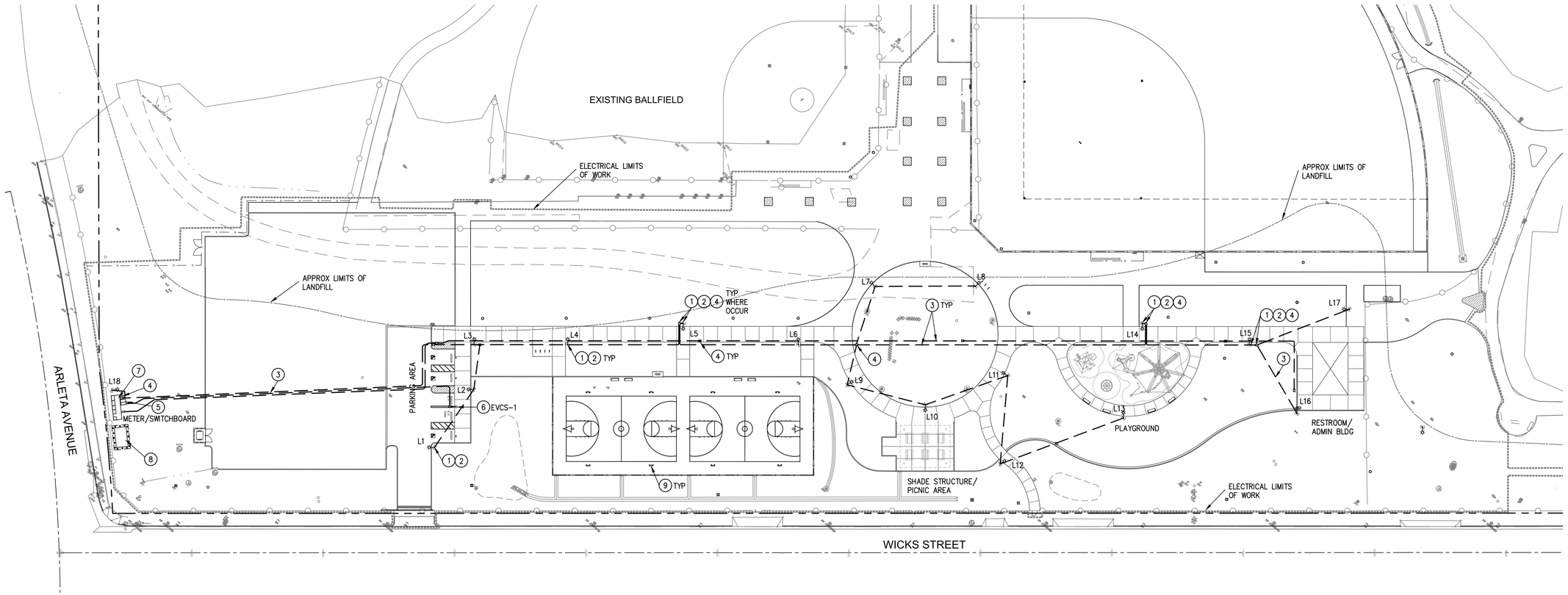
PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

Project Status BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. E001.1
SHEET 70 OF SHEETS 74

PLOTTED: 8/24/2021 12:01 PM



CONSTRUCTION NOTES

1. CONSTRUCT LIGHT POLE AND LUMINAIRE. SEE LIGHT POLE DETAIL 1/E-004
2. CONSTRUCT LIGHT POLE FOUNDATION PER DETAIL 3/E-004 3.1/E-004
3. CONSTRUCT CONDUIT AND WIRING AT 24" DEPTH MIN, SEE DETAIL 2/E-004
4. INSTALL PULL BOX WITH STEEL PLATE COVER AND TAMPER-PROOF FASTENER PER DETAIL 4/E-004
5. INSTALL PRECAST CONCRETE HAND HOLE WITH PADLOCK PROVISION 5/E-004
6. INSTALL ONE, 2 PORT LEVEL 2, EV CHARGING STATION 2/E-004
7. INSTALL NEW METER/SWITCHBOARD ON CONCRETE PAD
8. INSTALL LADWP TRANSFORMER.
9. CONSTRUCT CLASS IV SPORTS LIGHTING AND POLE.

DESIGN BUILD CONTRACTOR'S GENERAL NOTES

A) THE ELECTRICAL PLANS ARE 30% DESIGN BUILD PLANS AND THE CONTRACTOR SHALL DEVELOP THE ELECTRICAL PLANS TO 100%.

B) THE CONTRACTOR SHALL SUBMIT 90% ELECTRICAL PLANS TO BOE AND RAP FOR REVIEW.

1. PLANS SHOWN ARE AT 30% SCHEMATIC STAGE TO SUBMIT TO LADWP POWER SERVICE REQUEST AND NOT ALL MITIGATION AND COMPLIANCE APPLIED.
2. DESIGN BUILD CONTRACTOR SHALL REVIEW AND COMPLETE THE PLANS TO 100% AND COMPLY WITH THE PROJECT MITIGATION, SUBMIT AND APPROVAL OF AGENCY HAVING JURISDICTION (AHJ), AND APPLICABLE CODES, INCLUDING SUBMITTAL TO LARAP.
3. NLS LIGHTING IS THE PREFERRED PRODUCT MANUFACTURER, SHOULD A DIFFERENT MANUFACTURER SHALL BE USED INSTEAD, COORDINATE WITH LARAP FOR THE SUBSTITUTION.
4. BASKETBALL LIGHTING SHALL BE CLASS IV LIGHTING LEVEL AND ILLUMINANCE SHALL COMPLY WITH THE SPORTS LIGHTING REGULATIONS AND IES APPLICABLE CODES.

BUREAU OF ENGINEERING OFFICIAL RECORD

FABRICATED REST ROOM/ADMIN BUILDING, 498 SQ. FT., B OCCUPANCY

ELECTRICAL SCOPE OF WORK

- INSTALL NEW SERVICE 277/480V, 3PH, 4W, 1800 AMPS FOR CURRENT AND FUTURE PHASE
- NEW OUTDOOR LIGHTING AND PREFABRICATED RESTROOM/ADMIN BUILDING
- LEVEL 2 EV CHARGING STATION

PLAN

GRAPHIC SCALE: 1"= 40'

40' 20' 0' 40' 80'

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DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

ENGINEERING
CITY OF LOS ANGELES

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 637

INDEX NO. RP-300119

PROFESSIONAL ENGINEER * REGISTERED * GEORGE WANG * No. E9367 Exp. 09-30-23 * STATE OF CALIFORNIA

LIN CONSULTING, INC.
ENGINEER: GEORGE WANG, Lic. No. E9367
DESIGNED BY: BY/RG
DRAWN BY: VJ/SH
CHECKED BY: REY GALURA
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: ELECTRICAL SPECIFICATION

PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

Project Status
PROJECT ISSUE DATE: Issue Date

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. E002.0
SHEET 70 OF SHEETS 73

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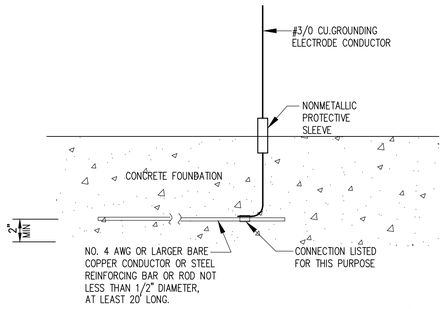
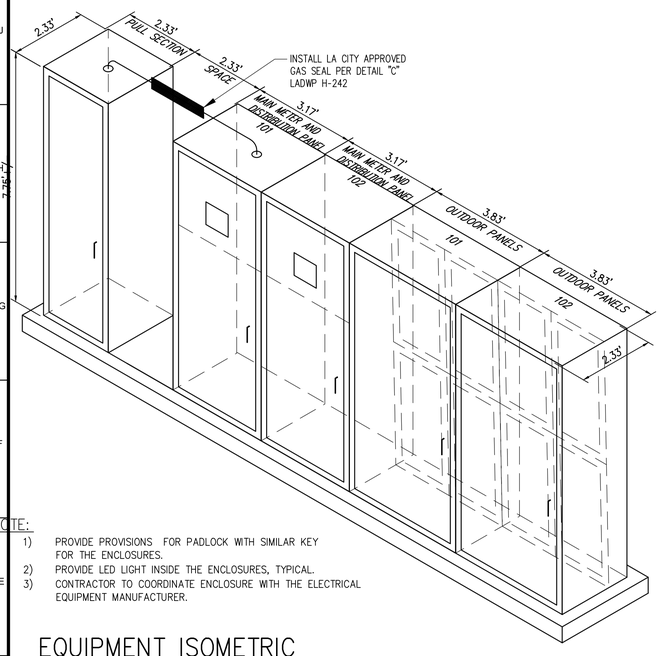


UFER INSTALLATION DETAIL (4 / E003.1)

NTS



NOTE:

1) PROVIDE PROVISIONS FOR PADLOCK WITH SIMILAR KEY FOR THE ENCLOSURES.
2) PROVIDE LED LIGHT INSIDE THE ENCLOSURES, TYPICAL.
3) CONTRACTOR TO COORDINATE ENCLOSURE WITH THE ELECTRICAL EQUIPMENT MANUFACTURER.

EQUIPMENT ISOMETRIC

NTS

PROJECT NAME:	SHELDON ARLETA PARK			
PROJECT NUMBER:				
CALCULATIONS				
SERVICE SIZE	VA	970,139	AMPS	1166.90
LOAD CALCULATIONS				

TYPE OF LOAD AND OCCUPATION		AREA	LOAD (VA/FT/2)	CONNECTED LOAD (VA)
LOADS	PANEL "EVL2-A"			72,000
	PANEL "EVL2-B" (FUTURE)			54,000
	PANEL "EVL3-A" (FUTURE)			375,008
	PANEL "EVL3-B" (FUTURE)			250,005
	PANEL "LTG-A"			5,250
	PANEL "A" ADMIN			19,848
	TOTAL LOADS x 125%			970,139

NON-RESIDENTIAL EV CHARGING STATION

Current Phase Parking Space	5
Future Parking Lot Spaces	163
Ex. North parking lot	89
Total parking spaces	257

EVCS (10% of total number of parking space provided for non-residential buildings, 99.05.106.5.3.6) — **26** CHARGERS

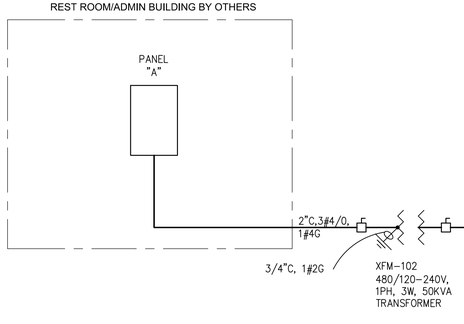
EV CHARGER BREAKDOWN

EVCS - LEVEL 2	1 -2-PORT CHARGER
EVCS - LEVEL 2 (FUTURE PHASE)	7 -2-PORT CHARGER
EVCS - LEVEL 3 (FUTURE PHASE)	5 -2-PORT CHARGER

PANEL 'A' (BY OTHERS)

ELECTRICAL PLAN REVIEW LOAD CALCULATIONS

PANEL: 120/240 VOLTS		SINGLE PHASE		200 AMPS MAIN BREAKER	
COMPONENT		CONNECTED LOAD (V.A.)		CALCULATED LOAD (V.A.)	
EXTERIOR LIGHTING		110	LONG CONTINUOUS LOAD X 1.25		137.50
INTERIOR LIGHTING		168	LONG CONTINUOUS LOAD X 1.25		210.00
(1) WATER HEATER		12000			12000.00
(2) HAND DRYERS		2000			2000.00
(1) DEDICATED RECEPTACLE - GFCI (CHASE)		1500			1500.00
(1) DEDICATED RECEPTACLES ON (1) BREAKER (OFFICE)		1500			1500.00
HVAC		2509			2090.00
TOTAL LOAD		19778	TOTAL LOAD		19947.50
TOTAL CONNECTED LOAD	KVA	19.778	TOTAL CALCULATED LOAD + FUTURE LOADS	KVA	50
	AMPS	82.408		AMPS	50.000



SINGLE LINE DIAGRAM

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BUREAU OF ENGINEERING
GARY LEE MOORE, PE, ENV SP CITY ENGINEER

NO.	REVISION DESCRIPTION	DATE	BY

RAP FACILITY NO. 837
INDEX NO. RP-300119

ENGINEERING CITY OF LOS ANGELES

REGISTERED PROFESSIONAL ENGINEER GEORGE WANG No. E9367 Exp. 09-30-23 STATE OF CALIFORNIA

LIN CONSULTING, INC.
ENGINEER: GEORGE WANG, Lic. No. E9367
DESIGNED BY: BY/RG
DRAWN BY: VJ/SH
CHECKED BY: REY GALURA
APPROVED BY: STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: WIRING & DISTRIBUTION PANEL DIAGRAM
PROJECT: CESAR CHAVEZ RECREATION COMPLEX AKA SHELDON ARLETA PARK PHASE IIIC
ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

BUREAU OF ENGINEERING OFFICIAL RECORD

Project Status
PROJECT ISSUE DATE: Issue Date

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. E003.0
SHEET 71 OF SHEETS 73

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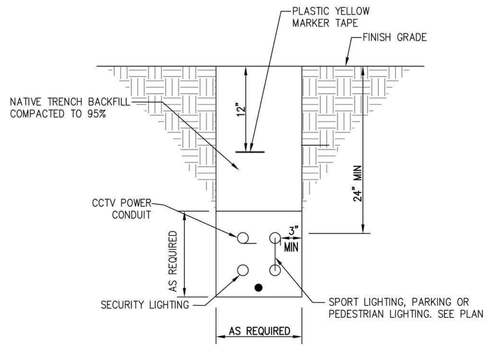
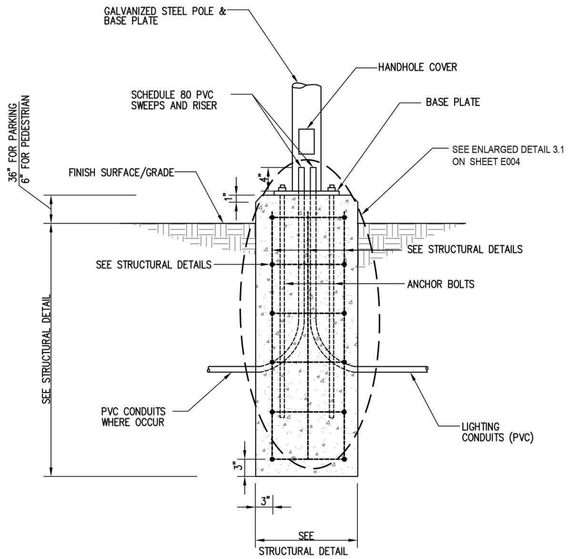
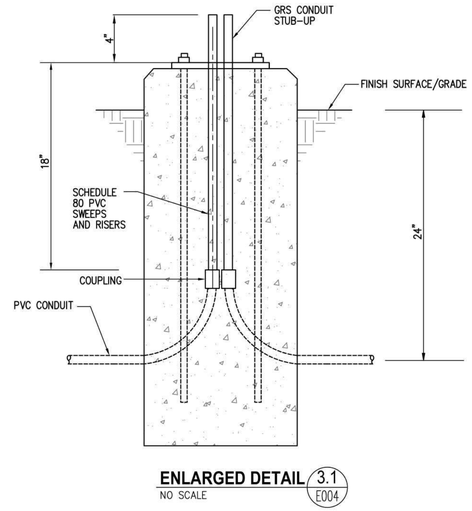


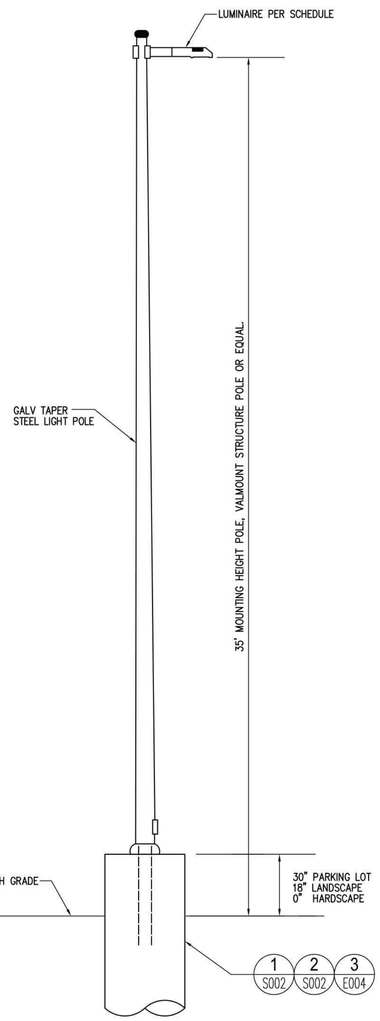
CONDUIT TRENCH DETAIL 2/E004
NO SCALE



LIGHTING POLE FOUNDATION DETAIL 3/E004
NO SCALE



ENLARGED DETAIL 3.1/E004
NO SCALE

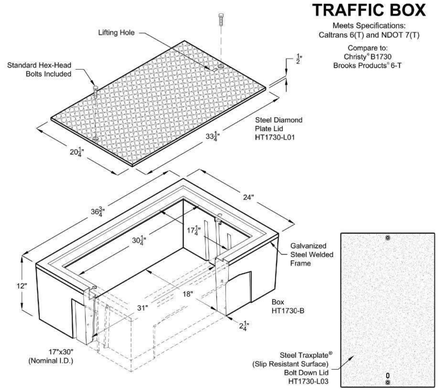


LIGHTING POLE DETAIL 1/E004
NO SCALE

HT1730 TRAFFIC BOX

Meets Specifications: Caltrans 6(T) and NDOT 7(T)

Compare to: Christy® B1730 Brooks Products® 6-T



PART NO.	PRODUCT	DESCRIPTION	APPROX. WEIGHT	QTY. PER PALLET
HT1730-B	BOX	17"x30"x12" Concrete Traffic Rated Box (Comes Standard With Hex Bolts)	290	6
HT1730-E	EXTENSION	17"x30"x12" Concrete Extension	288	6
HT1730-L01	LID	Steel Diamond Plate Bolt Down Lid	105	
HT1730-L03	LID	Steel Traxplate® Bolt Down Slip Resistant Traffic Rated Lid	105	
GALVANIZING AVAILABLE ON ALL STEEL LIDS				

For penta head and other bolt options, see security hardware sheet.

Design load: Traffic rated when installed per Caltrans ES-8B

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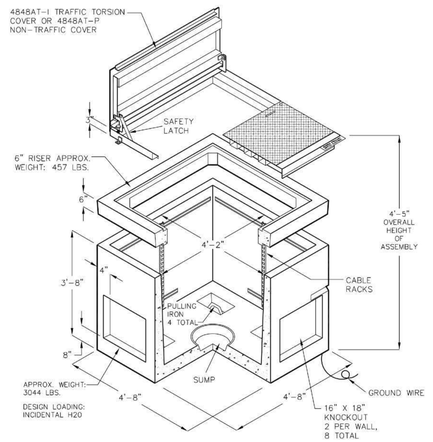
JENSENPRECAST.COM

TRAFFIC RATED PULL BOX DETAIL 4/E004
NO SCALE

4848 PULL BOX MODEL PB484836



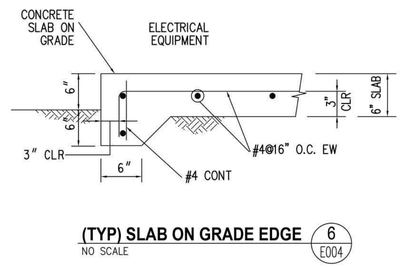
PRECAST CONCRETE HAND HOLE DETAIL 5/E004
NO SCALE

ROUND TAPERED STEEL DS210
Light Duty

valmont STRUCTURES

DESIGNATION, LOAD AND DIMENSIONAL DATA

DESIGN INFORMATION							POLE DIMENSIONS				DESIGNATION
	80 MPH w/1.3 GUST.		90 MPH w/1.3 GUST.		100 MPH w/1.3 GUST.						
NOMINAL MOUNTING HEIGHT	MAX EPA (SQ.FT)	MAX WEIGHT (LBS)	MAX EPA (SQ.FT)	MAX WEIGHT (LBS)	MAX EPA (SQ.FT)	MAX WEIGHT (LBS)	BASE OD (IN)	TOP OD (IN)	WALL THK (GA)	STRUCTURE WEIGHT (LBS)	
35'-0"	11.2	280	8.9	222	7.1	177	7.30	2.40	11	250	730A350
	18.9	472	15.1	377	12.2	305	8.50	3.60	11	315	850A350
	23.2	580	18.2	455	14.5	363	9.50	4.60	11	370	950A350



(TYP) SLAB ON GRADE EDGE 6/E004
NO SCALE

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LIN CONSULTING INC.

CITY OF LOS ANGELES
CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: DETAILS - 1

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

Project Status BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A

PLAN FILE NO.

DRAWING NO. E004.0

SHEET 73 OF SHEETS 74

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NLS LIGHTING

VUE SERIES

FULL CUTOFF SITE LIGHTING



FORM AND FUNCTION
- Sleek, low profile housing
- Dark Sky Compliant, Full Cutoff
- Engineered for optimum thermal management
- Low depreciation rate
- Reduces energy consumption and costs up to 65%
- Exceeds IES foot candle levels utilizing the least number of poles and fixtures per project
- Optical system designed for Parking Lots, Auto Dealerships, Municipalities, Tennis Courts, Field Lighting

CONSTRUCTION
- Aluminum
- External cooling fins, Finite Element Analysis (FEA) designed
- Corrosion resistant external hardware

FINISH
- 3-5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY
Five-year limited warranty for drivers and LEDs.

LISTINGS
- Certified to UL 1598
- UL 8750
- CSA C22.2 No. 250.0
- Designlights Consortium® (DLC)
- Designlights Consortium® Premium (DLCP)

LED WATTAGE CHART

	25L	32L	48L	64L	80L	96L	112L	128L	144L	160L	176L	192L
430 milliamps		35w	53w	70w								
700 milliamps		44w	71w	104w	136w							
1050 milliamps		71w	106w	139w	172w	205w	310w	390w	420w	458w	500w	551w	594w
	SIZE 1				SIZE 2				SIZE 3			

Project Name SHELDON ARLETA PARK Type 2

VUE-2	T2	80L	1	50K	UNV	MA	SVR	PE7, FSS
Cat #	Light Dist.	No. of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options

VUE-1 (50W Max) **(VUE-1)**
VUE-2 (110W Max) **(VUE-2)**
VUE-3 (58W Max) **(VUE-3)**

Type 1 **(T1)**
Type 2 **(T2)**
Type 3 **(T3)**
Type 4 **(T4)**
Type 5 **(T5)**
Tennis / Optic **(TT)**

Size 1
20 **(20L)**
32 **(32L)**
48 **(48L)**
64 **(64L)**
Size 2
80 **(80L)**
96 **(96L)**
Size 3
112 **(112L)**
128 **(128L)**
144 **(144L)**
160 **(160L)**
176 **(176L)**
192 **(192L)**

530 **(53)**
700 **(7)**
1050 **(1)**

3000K **(30K)**
4000K **(40K)**
5000K **(50K)**

120-277 **(UNV)**
347-480 **(HV)**

Direct Pole
For (All Sizes): Single, D180 Square **(DPSS)**
Round **(DPR6)**
For (Size 1): 20W, 32W, 48W, 64W, 80W, 96W, 112W, 128W, 144W, 160W, 176W, 192W Round **(DPR10)**
For (Size 2): 80W, 96W, 112W, 128W, 144W, 160W, 176W, 192W Square **(DPS12)**
Round **(DPR12)**
For (Size 3): 160W, 176W, 192W, 208W, 224W, 240W Square **(DPS16)**
Round **(DPR16)**
*See next page for Fine Configurations
Knuckle Mount **(KM)**
Trunnion Mount **(TM)**
Tennis Arm **(TA)**
Mast Arm **(MA)**
Wall Mount **(WM)**
*Includes 6" Bolt On Arm
Direct Wall Mount **(DWM)**
*Includes Wall Plate
*VUE-1 Only

Bronze **(BRZ)**
White **(WHT)**
Silver **(SVR)**
Hunter Green **(HGN)**
Black **(BLK)**
Graphite **(GPH)**
Slate **(GRY)**
Custom **(CS)**

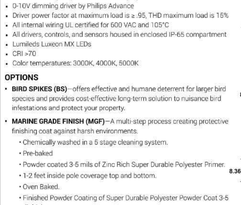
Bird Spikes **(BS)**
Marine Grade Finish **(MGF)**
Nema 7-Pin Receptacle **(PE7)**
Photocell **(PC)**
*Universal Voltage 120-277
Photocell + Receptacle **(PCR)**
Receptacle + Shorting Cap **(PXR)**
Integral FSP-211 Motion Sensor
(FSP-X) *For 8' + Below
(FSP-2R) *For 9' to 20'
(FSP-4D) *For 21' to 40'
Motion Sensor **(MS)**
Surge Protector **(10K)**
Rotate Optic Right **(ROR)**
Rotate Optic Left **(ROL)**
House Side Shield **(HSS)**
Front Side Shield **(FSS)**

ELECTRICAL
- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver by Philips Advance
- Driver power factor at maximum load is ≥ 95, THD maximum load is 16%
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP-65 compartment
- Lumileds Luxeon MX LEDs
- CRI >70
- Color temperatures: 3000K, 4000K, 5000K

OPTIONS
- **BIRD SPIKES (BS)**—offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.
- **MARINE GRADE FINISH (MGF)**—A multi-step process creating protective finishing coat against harsh environments.
  - Chemically washed in a 5 stage cleaning system.
  - Pre-baked.
  - Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer.
  - 1-2 feet inside pole coverage top and bottom.
  - Oven Baked.
  - Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.
- **SHIELDS (HSS, FSS)**—Four-sided House Side Shield (HSS) is designed for full property line cut-off. Front Side Shield (FSS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.

CONTROLS
- **FSP-211 (FSP-X)**—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration romote storing and transmitting sensor profiles.
  - FSP-20 mounting heights 9-20 feet
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, reprogrammable in the field.
- **NEMA 7-PIN RECEPTACLE (PE7)**—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

OPTICS
Recessed Star Power Optical System is 95% reflective material. Utilizes a linear diffused pattern, softening the light distribution and eliminating any dark shadows or striations.
- IES Types



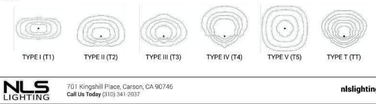
EPA	SGL	D90	D180	T90	T120	QD
VUE-1	1.01	1.02	1.76	2.72	2.78	2.75
VUE-2	1.51	1.02	2.76	4.21	4.14	4.21
VUE-3	1.86	1.72	3.56	5.37	5.48	5.37

DPX ARM LENGTH

	SGL	D90	D180	T90	T120	QD
VUE-1	6"	10"	8"	10"	10"	10"
VUE-2	6"	12"	8"	12"	12"	12"
VUE-3	6"	16"	8"	16"	16"	16"

FSP-211





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VUE - LUMEN DATA CHART

PART NUMBER	T1 (DPSS)	Lm/W	%LO	T2 (DPSS)	Lm/W	%LO	T2-HSS (DPSS)	Lm/W	%LO	T3 (DPSS)	Lm/W	%LO	T4 (DPSS)	Lm/W	%LO	T5 (DPSS)	Lm/W	%LO	TT (DPSS)	Lm/W	%LO	BUG†
VUE-1-20L-53-30K	3185	91	S	3780	108	S	2450	70	S	3500	100	S	3430	98	S	3290	94	S	3465	99	S	- -
VUE-1-20L-53-40K	3290	94	S	3815	109	S	2610	74	S	3535	101	S	3535	101	S	3395	97	S	3500	100	S	- -
VUE-1-20L-53-50K	3465	99	S	3885	111	S	2785	79	S	3570	102	S	3490	100	S	3605	103	S	3502	100	S	- -
VUE-1-20L-7-30K	4004	91	S	4702	106	S	3080	70	S	4460	100	S	4360	98	S	4312	98	S	4136	94	S	4396 99
VUE-1-20L-7-40K	4136	94	S	4796	109	S	3282	74	S	4444	101	S	4180	95	S	4444	101	S	4299	97	S	4400 100
VUE-1-20L-7-50K	4356	99	S	4884	111	S	3465	79	S	4486	102	S	4532	103	S	4482	102	S	4482	102	S	4444 101
VUE-1-20L-1-30K	6370	91	S	7560	108	S	4900	70	S	7000	100	S	6300	90	S	6860	98	S	6580	94	S	6930 99
VUE-1-20L-1-40K	6580	94	S	7630	109	S	5230	74	S	7070	101	S	6650	95	S	7070	101	S	6790	97	S	7000 100
VUE-1-20L-1-50K	6930	99	S	7770	111	S	5560	79	S	7140	102	S	6965	100	S	7213	103	S	7004	100	S	7070 101
VUE-1-32L-53-30K	4914	91	S	5832	108	S	3780	70	S	5400	100	S	4992	90	S	5292	98	S	5076	94	S	5346 99
VUE-1-32L-53-40K	5076	94	S	5886	109	S	4046	75	S	5454	101	S	5130	95	S	5454	101	S	5238	97	S	5400 100
VUE-1-32L-53-50K	5346	99	S	5994	111	S	4306	79	S	5508	102	S	5373	100	S	5562	103	S	5403	100	S	5454 101
VUE-1-32L-7-30K	6461	91	S	7668	108	S	4970	70	S	7100	100	S	6390	90	S	6958	98	S	6674	94	S	7029 99
VUE-1-32L-7-40K	6674	94	S	7745	109	S	5302	74	S	7171	101	S	6745	95	S	7171	101	S	6883	97	S	7100 100
VUE-1-32L-7-50K	7029	99	S	7881	111	S	5634	79	S	7242	102	S	7072	100	S	7311	103	S	7135	100	S	7171 101
VUE-1-32L-1-30K	9540	91	S	11448	108	S	7420	70	S	10600	100	S	9540	90	S	10388	98	S	9964	94	S	10494 99
VUE-1-32L-1-40K	9964	94	S	11554	109	S	7870	74	S	10706	101	S	10070	95	S	10706	101	S	10282	97	S	10600 100
VUE-1-32L-1-50K	10494	99	S	11766	111	S	8312	78	S	10847	102	S	10647	100	S	10918	103	S	10653	100	S	10706 101
VUE-1-48L-53-30K	6915	91	S	8208	108	S	5320	70	S	7600	100	S	6840	90	S	7448	98	S	7167	94	S	7524 99
VUE-1-48L-53-40K	7144	94	S	8284	109	S	5700	75	S	7676	101	S	7220	95	S	7676	101	S	7372	97	S	7600 100
VUE-1-48L-53-50K	7524	99	S	8436	111	S	5980	79	S	7752	102	S	7562	100	S	7828	103	S	7638	100	S	7676 101
VUE-1-48L-7-30K	9464	91	S	11352	108	S	7280	70	S	10402	100	S	9412	90	S	10192	98	S	9828	94	S	10298 99
VUE-1-48L-7-40K	9778	94	S	11339	109	S	7700	74	S	10504	101	S	9880	95	S	10504	101	S	10140	97	S	10402 100
VUE-1-48L-7-50K	10298	99	S	11544	111	S	8190	79	S	10605	102	S	10402	100	S	10710	103	S	10500	100	S	10504 101
VUE-1-48L-1-30K	14196	91	S	17048	108	S	11025	70	S	15900	100	S	14382	90	S	15288	96	S	14844	94	S	15444 99
VUE-1-48L-1-40K	14664	94	S	17364	109	S	11553	74	S	15756	101	S	14823	95	S	15756	101	S	15132	97	S	15600 100
VUE-1-48L-1-50K	15444	99	S	17334	111	P	12348	78	S	15912	102	S	15606	100	S	16068	103	S	15678	100	S	15756 101
VUE-1-64L-53-30K	9282	91	S	11016	108	S	7140	70	S	10200	100	S	9180	90	S	9996	98	S	9588	94	S	10098 99
VUE-1-64L-53-40K	9588	94	S	11118	109	S	7548	74	S	10302	101	S	9588	94	S	10302	101	S	9894	97	S	10200 100
VUE-1-64L-53-50K	10098	99	S	11322	111	S	7956	78	S	10404	102	S	10098	99	S	10506	103	S	10251	100	S	10302 101
VUE-1-64L-7-30K	12816	91	S	14688	108	S	9520	70	S	13600	100	S	12240	90	S	13328	98	S	12852	94	S	13464 99
VUE-1-64L-7-40K	12784	94	S	14824	109	S	10064	74	S	13736	101	S	12784	94	S	13736	101	S	13232	97	S	13600 100
VUE-1-64L-7-50K	13464	99	S	15096	111	S	10608	78	S	13872	102	S	13464	99	S	14008	103	S	13500	100	S	13736 101
VUE-1-64L-1-30K	18665	91	S	22180	108	S	14350	70	S	20580	100	S	18563	90	S	20090	98	S	19065	93	S	20295 99
VUE-1-64L-1-40K	19275	94	S	22345	109	S	15170	74	S	20705	101	S	19271	94	S	20705	101	S	19475	95	S	20500 100
VUE-1-64L-1-50K	20295	99	S	22785	111	P	15990	78	S	20910	102	S	20295	99	S	21115	103	S	20300	100	S	20705 101
VUE-2-80L-1-20K	27935	91	S	33404	108	S	18410	59	S	29826	102	S	25670	90	S	25774	98	S	25092	91	S	26563 101
VUE-2-80L-1-40K	24732	94	S	28667	109	S	19462	74	S	27089	103	S	24732	94	S	26561	101	S	26221	99	S	26826 102
VUE-2-80L-1-50K	26537	99	S	29193	111	S	20514	78	S	27362	104	S	26537	100	S	27089	103	S	27089	103	S	27193 103
VUE-2-96L-1-30K	28756	91	S	34128	108	S	21543	70	S	32232	102	S	28440	90	S	30968	98	S	30241	95	S	31916 101
VUE-2-96L-1-40K	29106	94	S	34444	109	S	22385	74	S	32448	103	S	29705	94	S	31916	101	S	31474	99	S	32222 102
VUE-2-96L-1-50K	31284	99	S	35076	111	S	24649	78	S	32864	104	S	31288	99	S	32548	103	S	32548	103	S	32680 103
VUE-3-112L-1-20K	33265	91	S	39528	108	S	25621	70	S	37332	102	S	32731	90	S	35864	98	S	34710	95	S	36966 101
VUE-3-112L-1-40K	34404	94	S	39894	109	S	27085	74	S	37698	103	S	34372	94	S	36966	101	S	36234	99	S	37332 102
VUE-3-112L-1-50K	36234	99	S	40626	111	S	28549	78	S	38064	104	S	36235	99	S	37698	103	S	37698	103	S	37698 103
VUE-3-128L-1-30K	37219	91	S	44172	108	S	28631	70	S	41718	102	S	36611	90	S	40082	98	S	39060	95	S	41309 101
VUE-3-128L-1-40K	38446	94	S	44581	109	S	30267	74	S	42127	103	S	38442	94	S	41309	101	S	40491	99	S	41718 102
VUE-3-128L-1-50K	40491	99	S	45399	111	S	31903	78	S	42536	104	S	40496	99	S	42127	103	S	41718	103	S	42127 103
VUE-3-144L-1-30K	41933	91	S	49764	108	S	32261	70	S	46715	102	S	41272	90	S	44894	98	S	43515	95	S	46538 101
VUE-3-144L-1-40K	43252	94	S	49922	109	S	33893	74	S	47174	103	S	42825	94	S	46259	101	S	45342	99	S	46716 102
VUE-3-144L-1-50K	45342	99	S	50838	111	S	35726	78	S	47632	104	S	45344	99	S	47174	103	S	46711	102	S	47124 103
VUE-3-160L-1-30K	45955	91	S	54540	108	S	35351	70	S	51510	102	S	45492	90	S	49492	98	S	47975	95	S	51005 101
VUE-3-160L-1-40K	47473	94	S	55045	109	S	37179	74	S	52015	103	S	47473	94	S	51005	101	S	50240	99	S	51510 102
VUE-3-160L-1-50K	49995	99	S	56055	111	S	39090	78	S	52520	104	S	49995	99	S	52015	103	S	52015	103	S	52015 103
VUE-3-176L-1-30K	50149	91	S	59508	108	S	38573	70	S	56202	102	S	49650	90	S	53998	98	S	52345	95	S	55651 101
VUE-3-176L-1-40K	51764	94	S	60059	109	S	40775	74	S	56763	103	S	51796	94	S	55823	101	S	54549	99	S	56202 102
VUE-3-176L-1-50K	54549	99	S	61161	111	S	42978	78	S	57324	104	S	54551	99	S	56763	103	S	56763	103	S	56763 103
VUE-3-192L-1-30K	54654	91	S	64162	108	S	41581	70	S	60588	102	S	53462	90	S	58213	98	S	56430	95	S	59994 101
VUE-3-192L-1-40K	55824	94	S	64566	109	S	43940	74	S	61180	103	S	55838	94	S	59994	101	S	58810	99	S	60588 102
VUE-3-192L-1-50K	58806	99	S	65934	111	S	46332	78	S	61770	104	S	58808	99	S	61182	103	S	60588	102	S	62370 103

	T1 (DPSS)	T2 (DPSS)	T2-HSS (DPSS)	T3 (DPSS)	T4 (DPSS)	T5 (DPSS)	TT (DPSS)
VUE-1	0.99	0.99	0.99	0.99	0.99	0.99	0.99
VUE-2	0.99	0.99	0.99	0.99	0.99	0.99	0.99
VUE-3	0.99	0.99	0.99	0.99	0.99	0.99	0.99

*DLC S= Standard P= Premium

L70 DEPRECIATION
463,000 Hours (@77°F/ 25°C)

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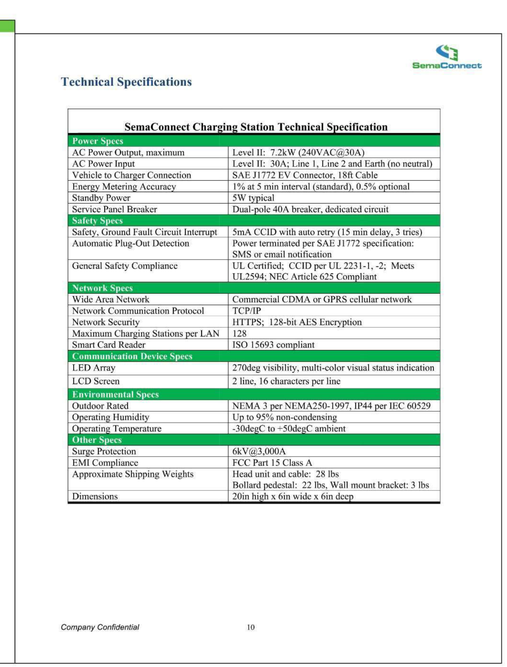
LIGHTING INFORMATION DETAIL
NO SCALE

1 / E004.1





SemaConnect Charging Station Technical Specification

Power Specs	
AC Power Output, maximum	Level II: 7.2kW (240VAC@30A)
AC Power Input	Level II: 30A; Line 1, Line 2 and Earth (no neutral)
Vehicle to Charger Connection	SAE J1772 EV Connector, 18ft Cable
Energy Metering Accuracy	1% at 5 min interval (standard), 0.5% optional
Standby Power	5W typical
Service Panel Breaker	Dual-pole 40A breaker, dedicated circuit
Safety Specs	
Safety, Ground Fault Circuit Interrupt	5mA CCID with auto retry (15 min delay, 3 tries)
Automatic Plug-Out Detection	Power terminated per SAE J1772 specification: SMS or email notification
General Safety Compliance	UL Certified; CCID per UL 2231-1, -2; Meets UL2594; NEC Article 625 Compliant
Network Specs	
Wide Area Network	Commercial CDMA or GPRS cellular network
Network Communication Protocol	TCP/IP
Network Security	HTTPS; 128-bit AES Encryption
Maximum Charging Stations per LAN	128
Smart Card Reader	ISO 15693 compliant
Communication Device Specs	
LED Array	270deg visibility, multi-color visual status indication
LCD Screen	2 line, 16 characters per line
Environmental Specs	
Outdoor Rated	NEMA 3 per NEMA250-1997, IP44 per IEC 60529
Operating Humidity	Up to 95% non-condensing
Operating Temperature	-30degC to +50degC ambient
Other Specs	
Surge Protection	6kV@3,000A
EMI Compliance	FCC Part 15 Class A
Approximate Shipping Weights	Head unit and cable: 28 lbs Bollard pedestal: 22 lbs, Wall mount bracket: 3 lbs
Dimensions	20in high x 6in wide x 6in deep

NOTE: THE PROPOSED EVCS SHALL BE AT MINIMUM OR APPROVE EQUAL BY LARAP.

EVCS SPECIFICATION
NO SCALE

2 / E004.1

NLS LIGHTING

IES ROAD REPORT
PHOTOMETRIC FILENAME : VUE-2-T2-80L-1-50K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L021508001
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 2/25/2015
[MANUFAC] NATIONAL LIGHTING SOLUTIONS
[LUMCAT] VUE-2-T2-80L-1050-50K
[LUMINAIRE] 27.06"L X 21.56"W X 8"H. LED LUMINAIRE
[MORE] ALUMINUM REFLECTOR WITH CLEAR LENS
[BALLASTCAT] VD EVERLINE D10CC150UVT-F (TWO DRIVERS)
[BALLAST] INPUT: 120-277VAC, 1.40-0.59A, 50/60Hz. OUTPUT: 105-1050mA, 50-143V
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[TEST CONDITION] ADDITIONAL ELECTRICAL MEASUREMENTS @277VAC ARE 8%THD, 0.57A, 263W, 0.88PF.
[MORE] ELECTRICAL MEASUREMENTS @120VAC ARE 7%THD, 1.17A, 263W, 0.99PF.
[_INPUT] 120VAC, 263W
[_TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

VUE-2



IES Classification	Type III
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	29189
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficacy	N.A. (absolute)
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	263
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	13896.564
Maximum Candela Angle	55H 57.5V
Maximum Candela (<90 Degrees Vertical)	13896.564
Maximum Candela Angle (<90 Degrees Vertical)	55H 57.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	2256.369 (7.7% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : VUE-2-T2-80L-1-50K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	2260.1	N.A.	7.7
FM - Front-Medium (30-60)	10721.3	N.A.	36.7
FH - Front-High (60-80)	7793.2	N.A.	26.7
FVH - Front-Very High (80-90)	298.0	N.A.	1.0
BL - Back-Low (0-30)	1412.8	N.A.	4.8
BM - Back-Medium (30-60)	3860.0	N.A.	13.2
BH - Back-High (60-80)	2683.5	N.A.	9.2
BVH - Back-Very High (80-90)	164.1	N.A.	0.6
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	29193.0	N.A.	100.0
BUG Rating	B4-U0-G4		

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

BUREAU OF ENGINEERING
OFFICIAL RECORD

30% BRIDGING DOCUMENT DESIGN BUILD PACKAGE

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CITY OF LOS ANGELES
ENGINEERING

NO.	REVISION DESCRIPTION	DATE	BY

INDEX NO. **RP-300119**
RAP FACILITY NO. 837

REGISTERED PROFESSIONAL ENGINEER GEORGE WANG No. E9367 Exp: 09-30-21 STATE OF CALIFORNIA

CITY ENGINEER		
DATE:		8/5/21
GARY LEE MOORE, PE, ENV SP CITY ENGINEER		
LIN CONSULTING, INC.		
ENGINEER:	GEORGE WANG, Lic. No. E9367	8/5/21
DESIGNED BY:	BY/RG	8/5/21
DRAWN BY:	VJ/SH	8/5/21
CHECKED BY:	REY GALURA	8/5/21
APPROVED BY:	STEVEN FIERCE, AIA, PRINCIPAL ARCHITECT	8/5/21

CLIENT: DEPARTMENT OF RECREATION & PARKS
GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: DETAILS - 2

PROJECT: CESAR CHAVEZ RECREATION COMPLEX
AKA SHELDON ARLETA PARK PHASE IIIC

ADDRESS: 12455 WICKS STREET, LOS ANGELES, CA 91352

Project Status BID SET
PROJECT ISSUE DATE: 08/05/2021

WORK ORDER NO. E170163A
PLAN FILE NO.
DRAWING NO. E004.1
SHEET 74 OF SHEETS 74

PLOTTED: 8/24/2021 12:01 PM

ATTACHMENT NO. 2

PROJECT MANUAL

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

12455 WICKS STREET, SUN VALLEY, CA 91352

09/27/2021

W.O. No. E170163A

Department of
Recreation and Parks

Department of Public Works
Bureau of Engineering
Architecture Division

ENGINEERING
CITY OF LOS ANGELES

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

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CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

I. GENERAL CONDITIONS

Department of
Recreation and Parks

GENERAL CONDITIONS

FOR

CONSTRUCTION

OF

CESAR CHAVEZ RECREATION COMPLEX PHASE III C ALSO KNOWN AS: SHELDON ARLETA PARK PHASE III C E170163A

12455 Wicks Street, Sun Valley, CA 91352

September 2021

ENGINEERING
CITY OF LOS ANGELES

Revision Date: 09/01/2021

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GENERAL

1. DEFINITIONS

The following terms as used in the Contract shall be defined and interpreted as follows:

ADDENDA

Written documents issued during the bidding period which modify, supersede, or supplement the original Contract Documents.

AGREEMENT

See "CONTRACT."

AS SHOWN, AS INDICATED, AND AS SPECIFIED

These words are understood to be followed by the words "in the Contract Documents."

BENEFICIAL USE

Use of a building, system, structure, or facility by the CITY.

BID

The offer of the Bidder submitted on the prescribed forms setting forth the price(s) for the Work.

BIDDING PERIOD

The time period allocated to the Bidder to enable preparation of a Bid or Proposal.

BIDDER

The person or persons, partnership, firm or corporation submitting a Bid or proposal for the Work defined in the Contract Documents.

BID GUARANTY

The cash, certified check or Bidders Surety Bond accompanying the Bid as a guaranty that the Bidder will enter into a contract with the RECREATION AND PARK COMMISSION for the performance of the Work.

BOARD OF RECREATION AND PARK COMMISSIONERS

The Board of Recreation and Park Commissioners, of the City of Los Angeles.

BOND

Bid bond, performance and payment bond or other instrument of security.

CHANGE ORDER

A written order to the CONTRACTOR signed by the GENERAL MANAGER directing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or time which is issued after the effective date of the Contract and effects less modification than is effected by a Supplemental Agreement. A Change Order may or may not also be signed by the CONTRACTOR.

CITY

The CITY of Los Angeles, a municipal corporation.

CLAIM

A written demand or assertion by one of the parties seeking, as a matter of right, an interpretation of the Contract Documents, payment of money, extension of time or other relief. The party asserting the claim must set forth the facts and circumstances for which the other party is responsible.

CODE

Codes of the State of California as well as any other Federal or local law, statute, ordinance, rule or regulation.

CONTRACT

A binding agreement between the CITY and the CONTRACTOR for the Work described in the Contract Documents.

CONTRACT COMPLETION DATE

The date the CITY accepts the entire Work as being in compliance with the Contract Documents, and authorizes the final payment in accordance with the requirements set forth in Article 25, FINAL PAYMENT of the General Requirements.

CONTRACT DOCUMENTS

The following documents constitute a part of and comprise the Contract Documents: Agreement, Notice Inviting Bids or Proposals, Instruction to Bidders, Contractor's Bid or Proposal, Special and Supplementary Conditions, General Requirements, Geotechnical Baseline Report (if provided for the in the General Requirements), Federal and State Requirements, Standard and Reference Specifications, Standard Plans, Plans and Specifications, Soil Reports and Subsurface Investigation Reports, Summary of First Notice Replies, Addenda and Notice to Bidders issued prior to the opening of bids, Plan Clarifications, Request for Information, Supplemental Agreements and Change Orders issued after Contract award.

CONTRACTOR DEFAULT

See TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT) Article of these General Conditions.

CONTRACT PRICE

The total amount of money for which the Contract is awarded.

CONTRACT UNIT PRICE

The amount stated in the Bid for a single unit of an item of Work.

CONTRACTOR

The person or persons, partnership, firm or corporation who enters into the Contract as stipulated in the Agreement awarded by the CITY. Prime Contractor and Contractor shall mean the same.

CONTRACTOR'S REPRESENTATIVE

The representative of the CONTRACTOR at the site who shall supervise and direct the construction and who is authorized to receive and fulfill instructions from the PROJECT MANAGER or INSPECTOR.

DAYS

Unless otherwise specifically stated, the term "days" will be understood to mean consecutive calendar days.

EASEMENT

Permission to access or utilize property not owned by the CITY.

EQUAL

See "OR EQUAL".

GENERAL CONDITIONS

Instructions to the CONTRACTOR setting forth its responsibilities and the CITY'S responsibilities for proper execution of the Work indicated herein.

GENERAL MANAGER

GENERAL MANAGER of the Department of Recreation and Parks, or an authorized representative.

GENERAL REQUIREMENTS

Instructions to the CONTRACTOR setting forth its responsibilities and the CITY'S responsibilities for proper execution of the administration and technical aspects of the project indicated herein.

GEOTECHNICAL DESIGN SUMMARY REPORT /GEOTECHNICAL BASELINE REPORT (GBR)

The report that sets forth the geotechnical interpretations regarding anticipated conditions for the design and construction of the project. This report establishes a geotechnical baseline that provides the basis for identification of changed site/ground conditions.

GEOTECHNICAL SITE ASSESSMENT

SEE AGEOTECHNICAL DESIGN SUMMARY REPORT.@

HOLIDAY

Those holidays and dates observed by the CITY. A list of such holiday dates is available from the RECREATION AND PARK COMMISSION Office.

IMMEDIATELY NOTIFY

The obligation to cause verbal notification of some condition or event as soon as possible upon discovery or knowledge of the condition or event and in all instances, no more than two (2) hours.

INSPECTOR

The Inspector of Public Works, the Director of the Bureau of Contract Administration, or an authorized representative(s) located at the Public Works Building, 1149 S. Broadway, 3rd Floor, Los Angeles, CA, 90015.

JOBSITE

The area upon or in which the CONTRACTOR'S operations are carried on and such other areas adjacent thereto as may be designated as such by the Contract Documents.

LAW

Any Federal, State or local law, statute, ordinance, rule, regulation or code.

LIQUIDATED DAMAGES

The amount the CONTRACTOR shall pay to the CITY, as determined by rates and amounts as fixed and agreed in the Contract Documents, due to the CONTRACTOR'S failure to complete the Work or submit the schedule within the time specified, or for non-compliance with other specified requirements.

MODIFICATIONS

Includes Change Orders and Supplemental Agreements. A modification may only be issued after the effective date of the Contract.

NON-CONFORMING WORK

Non-conforming Work is Work which does not conform in all respects to all requirements in the Contract Documents, including damaged Work and damaged materials, without respect to the causes or nature of such lack of conformity.

NOTICE OF AWARD

The written notice by the CITY to the successful Bidder stating that upon compliance by the successful Bidder of required conditions, the City will execute the Contract.

NOTICE TO BIDDERS

A notice included in the bidding documents that informs prospective bidders of the bidding procedures and the opportunity to submit a bid.

NOTICE TO CONTRACTOR

The written notice by the CITY to the CONTRACTOR which officially advises on direction and provides information pertinent to the Contract.

NOTICE TO PROCEED

The written notice by the CITY to the successful Bidder stating that the Work or portions of the Work may commence.

NOTICE TO WITHHOLD

The written notice by the CITY to the CONTRACTOR advising that certain payments shall be withheld due to unacceptable execution of the Work by the CONTRACTOR.

OR EQUAL

The product, equipment, or material which is proposed by the CONTRACTOR for use in the Work which in the sole judgment of the PROJECT MANAGER is equal to, better than and as suitable as the product or material specified in the Contract Documents as to function, performance, reliability, quality, and general configuration.

PARTIAL ACCEPTANCE

Any portion of the Work which has been completed in accordance with the plans and specifications and has been accepted in writing by the PROJECT MANAGER and the INSPECTOR on the "Statement of Partial Completion" form.

PLANS OR DRAWINGS

The drawings, profiles, cross sections, working drawings, and supplemental drawings, or reproductions thereof, issued or approved by the PROJECT MANAGER, which show the location, character, dimensions or details of the Work.

PROJECT

The Work and/or construction operations executed through the performance of this Contract.

PROJECT MANAGER

The authorized representative of the GENERAL MANAGER.

PROTEST

See definition of Claim.

REFERENCE SPECIFICATIONS

Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, PROJECT MANAGER societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project, adopted by the RECREATION AND PARK COMMISSION, if applicable, unless specifically referred to by edition, volume, or date.

RIGHTS OF ENTRY

Written permission from an owner of a facility or property to access the facility or property for a specific purpose.

RIGHT OF WAY

Rights of way, easements, or rights of entry for the Work will be provided by the CITY. The CONTRACTOR shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required in addition to those provided by the CITY. The CONTRACTOR shall indemnify and hold the CITY harmless from all claims for damages caused by such actions.

SPECIAL PROVISIONS

Any provision which supplements or modifies the Specifications.

SPECIFICATIONS

The Contract Documents and revisions to it which were prepared to specifically describe the commercial, legal, technical and nontechnical requirements of the project. Specifications include but are not limited to Terms, Provisions, General Conditions, General Requirements, Special Provisions, Technical Specifications, Equipment Schedules, and all revisions made to the specifications in Addenda, Notice To Bidders, and Change Orders or Modifications, signed by the GENERAL MANAGER.

STANDARD PLANS

Details of standard structures, devices or instructions referred to on the plans or in the specifications by title or number issued by the CITY.

STANDARD SPECIFICATIONS

Documents, Materials and items specified in Article 5 of these General Conditions.

STARTUP

That stage of performance testing as defined in the specifications which use the actual process fluid, material, or medium for a specified number of days of continuous operation without major interruptions and prior to acceptance by the CITY.

SUBCONTRACTOR

A "Subcontractor" is a contractor who is licensed pursuant to California Business and Professions Code, Section 7000 *et.seq.* and who contracts directly with the prime CONTRACTOR. The Subcontractor performs some part of the Work of the Contract. A Subcontractor does not have any direct contract with the CITY related to the project.

SUB-SUBCONTRACTOR

A "Sub-subcontractor" is a Subcontractor, within the definition of that term, who has a contract with a Subcontractor and has no Contract with the City related to the project.

SUPERVISOR

The designated individual who is responsible for the proper execution or installation of some portion or portions of the Work. The SUPERVISOR reports directly or indirectly to the CONTRACTOR'S REPRESENTATIVE.

SUPPLEMENTAL AGREEMENT

A written amendment of the Contract Documents which modifies the Contract in price or scope by a percentage which is more than can be accomplished by a Change Order and signed by the CITY and the CONTRACTOR.

SUPPLIER

An individual, organization, or firm who is not required for the purposes of the Work to be licensed pursuant to California Business and Professions Code as a CONTRACTOR, Subcontractor, or Sub-subcontractor, within the meanings of those terms as defined herein above, who provides equipment and/or materials for the Work, to the CONTRACTOR, a Subcontractor, or a Sub-subcontractor, including that fabricated to a

special design, but who does not perform labor at the site except for labor or labor supervision required by some manufacturers as part of their equipment installation for warranty or other purposes. The term "supplier" also includes fabricator, manufacturer, or vendor.

SURETY

Any individual, firm or corporation, bound with and for the CONTRACTOR for the acceptable performance, execution and completion of the Work, and for the satisfaction of all obligations incurred.

TERMS

Unless otherwise stated, the words "directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory," or words of like meaning, refer to actions, statements, judgments, conclusions, and decisions within the responsibility of the PROJECT MANAGER or the INSPECTOR.

UNAVOIDABLE DELAY

Delay arising from causes beyond the control and without the fault or negligence of the CONTRACTOR and its Subcontractors at all tiers.

UTILITY

Tracks, overhead or underground wires, cables, pipeline, conduits, ducts, or structures, sewers, or storm drains owned, operated, or maintained in or across a public right of way, private easement, or jobsite.

VOLUME I

Are the items in the bid package entitled “CITY OF LOS ANGELES, CALIFORNIA, DEPARTMENT OF RECREATION AND PARKS INSTRUCTION TO BIDDERS, PROPOSAL, AFFIDAVIT AND BOND FOR…” inclusive.

VOLUME II

Are the items in the bid package entitled “CONTENTS GENERAL CONDITIONS”, “CONTENTS GENERAL REQUIREMENTS”, and any specifications and attachments inclusive.

WORK

Includes all material, labor, utility services, tools, expendable equipment, and all appliances, machinery, transportation, appurtenances and specified services necessary to perform and complete the Contract; and such additional items not specifically indicated or described that can be reasonably inferred as belonging to the item described or indicated and as required by good practice to provide a complete and satisfactory system or structure. As used herein, "provide" shall be understood to mean "furnish and install, complete in place."

WORKSITE

See "JOBSITE."

WORKDAY

Any day within the period between the start of the Contract time and the date provided in the Contract for completion or the date established in the Statement of Completion by the CITY acknowledging that all Work under the contract is complete, whichever occurs last, other than:

- Saturday,
- Sunday,
- any day designated as a holiday by the CITY, and,

- any other day designated as a holiday in a Master Labor Agreement entered into by the CONTRACTOR or on behalf of the CONTRACTOR as an eligible member of a Contractor's Association,
- any day the CONTRACTOR is prevented from working for cause as established by UNAVOIDABLE DELAY of these General Conditions; and,
- any day the Contractor is prevented from working during the first five (5) hours of the workday with at least sixty percent (60%) of the normal Work force from cause as established by an Unavoidable Delays of these General Conditions.

CONTRACT DOCUMENTS

2. SCOPE

A. The work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies and manufactured articles, and for furnishing all transportation, services, including fuel, power and water, and essential communications, and the performance of all labor, Work, or operations required for the fulfillment of the Contract, in strict accordance with the specifications, schedules, and drawings, all of which are made a part hereof, and including such detail sketches as may be furnished by the PROJECT MANAGER from time to time during the construction in explanation of said drawings. The items shall be complete and all Work, material, and services not expressly called for in the Specifications, or not shown on the drawings, which may be necessary for complete and proper construction to carry out the Contract in good faith shall be performed, furnished, and installed by the CONTRACTOR at no increase in cost to the CITY.

B. The Work required by the Contract shall be completed within three hundred sixty (360) calendar days of the date specified by the General Manager in the notice to proceed with the work. The Contract completion time shall consist of two hundred seventy days (270) calendar days for construction, and ninety days (90) calendar days for maintenance.

3. AUTHORITY OF THE RECREATION AND PARK COMMISSION, PROJECT MANAGER, AND INSPECTOR

The GENERAL MANAGER, RECREATION AND PARKS has the final authority in all matters affecting the Work The CONTRACTOR shall promptly comply with instructions from the PROJECT MANAGER or the INSPECTOR.

On all questions relating to quantities, the acceptability of material, equipment, or Work, the execution, progress or sequence of Work, and the meaning of specifications or drawings, the decision of the PROJECT MANAGER is final and binding, and shall be precedent to any payment under the Contract, unless otherwise ordered by the BOARD OF RECREATION AND PARKS.

The PROJECT MANAGER is authorized to require performance of the Work consistent with the meaning of the plans and specifications and to approve necessary additive changes in Plans up to a maximum as authorized by the Recreation and Park Commission. The PROJECT MANAGER may initiate changes in Plans or scope of Work, regardless of cost, for submission to the RECREATION AND PARK COMMISSION for its approval.

The INSPECTOR is authorized to enforce compliance with Plans and Specifications, to determine the acceptability of materials and workmanship, administer requirements with respect to subcontracts, and to prepare and process progress payment estimates. In the event of a dispute between the CONTRACTOR and the INSPECTOR, the latter is authorized to reject materials or suspend the Work until any questions at issue can be referred to and decided by the RECREATION AND PARK COMMISSION or, in design matters, by the PROJECT MANAGER.

The INSPECTOR may sample and test all materials to be incorporated into the Work. The INSPECTOR may delegate this authority to sample materials and perform tests to the Department of General Services, Standards Division, or other approved agencies, the CONTRACTOR will pay for testing.

4. INTENT OF CONTRACT DOCUMENTS

The Contract Documents are complementary, and what is called for by one part shall be as binding as if called for by all. The intent of the Documents is to include all Work consistent therewith and reasonably inferable there from as being necessary for completion of the Contract. Materials or Work described in words that indicate the proper execution and a well known technical or trade designation shall be held to refer to such recognized standards.

It is understood and agreed that the written terms and provisions of the Contract Documents represent the entire and integrated agreement between the parties hereto and supersede all prior negotiations, representations, or agreements, either written or oral. The Contract Documents shall not be construed to create any contractual relationship of any kind between the PROJECT MANAGER or the INSPECTOR and the CONTRACTOR.

5. STANDARD SPECIFICATIONS

The applicable portions of the Standard Specifications for Public Works Construction (SSPWC) shall become part of these Contract Documents, and unless otherwise specified, all Work and materials shall conform to the Standard Specifications as modified by the corresponding issue of Standard Plan No. S-610 as amended or revised and adopted by the RECREATION AND PARK COMMISSION in effect on the date of advertising for bids.

6. INTERPRETATION OF PLANS AND SPECIFICATIONS

Every part of the Contract, as shown on the Plans and described in the Specifications, must be completed and finished. No deviations are to be made from the Plans or Specifications without previous written authorization from the PROJECT MANAGER.

In general, the Plans will show dimensions, positions and type of construction, and the Specifications will define materials, quantities, and if indicated, required methods of construction. Any Work called for on the Plans and not mentioned in the Specifications, or vice versa, shall be performed as though fully set forth in both. Work not particularly detailed, marked, or specified shall be the same as similar parts that are detailed, marked, or specified.

The Plans have been drawn to the indicated scales except where otherwise noted. Dimensions indicated by figures or numerals shall govern in all cases whether drawn to scale or not. Larger scale drawings shall take precedence over smaller scale drawings. Drawings shall not be scaled for dimensions.

The general character of the detailed Work is shown on the Contract drawings, but minor modifications may be made in larger scale drawings. The PROJECT MANAGER will furnish additional details, when needed, to more fully explain the Work, and the same shall be considered part of the Contract.

Where on any drawings, a portion of the Work is drawn out or detailed and the remainder is indicated in outline, the drawn out or detailed parts shall apply also to all other like portions of the Work. Where ornament or other detail is indicated by starting only, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to all other similar parts in the Work, unless otherwise indicated.

References made to other specifications and codes refer to the edition including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume, or date as noted in the Contract Documents.

The CONTRACTOR shall furnish and install all equipment and materials required to complete installations whether or not the quantities are specifically shown, called out, or reflected in the Contract Drawings.

7. PRECEDENCE OF CONTRACT DOCUMENTS

In resolving inconsistencies or ambiguities among two (2) or more components of the Contract Documents, the highest precedence shall be given to Permits from the other agencies as may be required by law and decreasing order as follows:

1. Permits from other agencies as may be required by law
2. Agreement
3. Special Provisions
4. General Conditions
5. Specifications - Division 01: General Requirements
6. Specifications - Divisions 02 - 17
7. Geotechnical Site Assessment
8. Drawings
9. Standard Plans
10. Standard Specifications

11. Reference Specifications

12. Reference Drawings

Supplemental Agreements, Change Orders, PROJECT MANAGER'S written interpretations and clarifications, Notice to Bidders and Addenda, in the precedence listed, will take precedence over all other Contract Document components referenced therein. Figure dimensions on Drawings will take precedence over scaled dimensions.

Detailed Drawings, including Process and Instrumentation Drawings (P & ID's), will take precedence over general Drawings.

8. ACCURACY OF PLANS AND SPECIFICATIONS

Omissions from the Plans and Specifications shall not relieve the CONTRACTOR from the responsibility of furnishing, making, or installing all items required by law or usually furnished, made, or installed in a project of the scope and character indicated by the Plans and Specifications. If the CONTRACTOR is of the opinion that it will incur costs above and beyond what would reasonably be anticipated in meeting the above requirements, it shall inform the PROJECT MANAGER in writing within twenty (20) calendar days after discovering the omission and before starting the Work.

The Plans show conditions as they are supposed or believed by the PROJECT MANAGER to exist, but it is not intended or to be inferred that the conditions as shown thereon constitute a representation or warranty, expressed or implied, by the CITY or its officers, that such conditions are actually existent, nor shall the CITY, or any of its officers, be liable for any loss sustained by the CONTRACTOR as a result of any variance between conditions as shown on the Plans, and the actual conditions revealed during progress of the Work or otherwise, except as indicated in Article 53, Differing Site Conditions of these General Conditions.

9. EXAMINATION OF COVERED WORK

If any Work is covered without inspection, approval or consent of the INSPECTOR, and examination is required by the INSPECTOR, it shall be uncovered at the CONTRACTOR'S sole expense.

Examination of covered Work may be ordered by the PROJECT MANAGER and if so ordered, the Work shall be uncovered by the CONTRACTOR. If such Work is found to be in accordance with the Contract Documents, the CITY will issue a Change Order authorizing payment for the cost of examination and replacement. If such Work is found to be not in conformance with the Contract Documents, the CONTRACTOR shall correct the non-conforming Work and the cost of examination and correction of the non-conforming Work shall be borne solely by the CONTRACTOR.

10. UNNOTICED DEFECTS

Any non-conformity in the Work that is discovered before Contract Completion, or before final payment has been made, or during the guarantee period, shall be removed and replaced by the CONTRACTOR with Work which conforms to the provisions of the Contract Documents. Failure on the part of the PROJECT MANAGER or the INSPECTOR to condemn or reject non-conforming Work shall not constitute acceptance or implied acceptance of such Work.

11. BUILDING CODES AND REGULATIONS

The CONTRACTOR shall perform the Work in accordance with the requirements of the Los Angeles City Building Code and all other regulations, laws, and ordinances, even though such requirements are not specifically mentioned in the Specifications or shown on the drawings.

It is not the responsibility of the CONTRACTOR to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If the CONTRACTOR observes that any of the Contract Documents are at variance therewith in any respect, it shall promptly notify the PROJECT MANAGER in writing, and any necessary changes shall be accomplished by issuance of a Change Order.

If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the PROJECT MANAGER, it shall assume full responsibility therefore and shall bear all costs attributable thereto.

12. LENGTH OF WORKDAY AND WORK WEEK

Eight (8) hours of labor shall constitute a calendar day's work for employees of the CONTRACTOR under this Contract. Said employees shall be paid not less than the prevailing wage rate for the first eight (8) hours work of each day.

A working day shall be Monday through Friday, and work shall be between 7:00 a.m. and 4:00 p.m., unless otherwise approved by the PROJECT MANAGER or the RECREATION AND PARK COMMISSION or revised by CITY Ordinance.

When work in excess of eight (8) hours per day, or forty (40) hours during any one (1) week is performed, wages for all hours over eight (8) hours in any day or over forty (40) hours during any one (1) week shall be paid at the prevailing wage rate, as provided in the California Code and the CITY's code requirements.

13. PAYMENT OF EMPLOYEES

The CONTRACTOR and each Subcontractor shall pay each employee engaged in Work on the project under this Contract in compliance with the Federal and State wage provisions indicated on the appropriate page of the Proposal (General Instruction and Information for Bidders), and LENGTH OF WORKDAY AND WORK WEEK of these General Conditions.

The certified payroll and the Statement of Compliance shall be submitted to the INSPECTOR by the CONTRACTOR and all Subcontractors performing Work on the project, regardless of dollar amount or type of contract.

If there is a difference between the Federal and State minimum wage rates for similar classifications of labor, the CONTRACTOR and its Subcontractors shall pay not less than the higher wage rate.

When the CONTRACTOR intends to use a craft or classification not shown on the general prevailing wage determinations, it will be required to pay the wage rate of that craft or classification most closely related to it as shown in the general prevailing wage determinations. In case of disagreement between the CONTRACTOR and the CITY, the INSPECTOR shall make the final determination as to the prevailing wages for the Work.

14. CONVICT-MADE MATERIALS

No materials manufactured or produced in a penal or correctional institution shall be incorporated in the project under this Contract.

15. SALES; BUSINESS OR USE TAX

Purchases of materials and equipment which will be incorporated or installed permanently in the Contract Work, or which will be used in the operation of the CONTRACTOR or Subcontractors, and not incorporated in the Contract Work, are not exempt from City of Los Angeles and California State Sales or Use Taxes as applicable. The CITY shall consider any required business taxes to be included in the overhead costs of the CONTRACTOR.

16. NONDISCRIMINATION IN EMPLOYMENT

The CONTRACTOR shall comply with all of the provisions of the Los Angeles Administrative Code, Mandatory Provision Pertaining to Nondiscrimination in Employment.

The CONTRACTOR shall submit Monthly Ethnic Composition of Work Force Reports to the INSPECTOR indicating the number of employees in the various work categories and ethnic groups and gender on forms furnished by the CITY. Failure to furnish the reports shall constitute grounds for the CITY to withhold the progress payment.

Nondiscrimination Clause: "The CONTRACTOR shall not discriminate during the performance of this Contract against any employee or applicant for employment because of employee's or applicant's race, religion, national

origin, ancestry, sex, age, sexual orientation or physical handicap." The CONTRACTOR shall include in all subcontracts awarded under this Contract the same Nondiscrimination Clause.

If conflicts exist between these provisions and the Federal Rules and Regulations governing the same, the more stringent requirements shall prevail.

17. APPRENTICE UTILIZATION

Any Contract awarded hereunder will require the CONTRACTOR to comply with the provisions of the California Labor Code relating to apprentice employment and training; and will require the CONTRACTOR to assume full responsibility for compliance with said section with respect to all Apprenticing Occupations involved in the Project. (Compliance with said Apprentice Utilization provisions of the Labor Code is not required for Public Works Contracts involving less than $30,000 or less than twenty (20) Working days in duration).

18. LAWS AND REGULATIONS

The CONTRACTOR shall observe and comply with all Federal, State, and local laws, ordinances, codes, orders, and regulations which in any manner affect those engaged or employed on the Work, the materials used in the Work, or the conduct of the Work. If any discrepancy or inconsistency should be discovered in this Contract in relation to any such law, ordinance, code, order, or regulation, the CONTRACTOR shall report the same in writing to the PROJECT MANAGER. The CONTRACTOR shall indemnify and save harmless the CITY, and its officers, agents, and employees, against all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by itself or by its employees or subcontractors as stated in these Contract Documents. Any particular law or regulation specified or referred to elsewhere in these specifications shall not in any way limit the obligation of the CONTRACTOR to comply with all other provisions of Federal, State, and local laws and regulations.

19. PERMITS AND CONSTRUCTION EASEMENTS

The CONTRACTOR shall anticipate, obtain and pay for all permits, excluding the General Building Permit, necessary for performance of the Work.

The CONTRACTOR shall obtain and pay all costs incurred and submit to the PROJECT MANAGER copies of all permits required for the construction and installation of all Work called for on this project. All costs shall be included in the CONTRACTOR'S bid. The permit list to be obtained by the CONTRACTOR shall include, but not be limited to the following:

1. Night Work, hauling, overload, grading, excavation, demolition, foundation, and associated building permits.
2. Electrical permits.
3. Mechanical permits.
4. Plumbing permits.
5. South Coast Air Quality Management District permits.
6. Fire sprinkler permit.
7. All Federal, State, County and CITY issued permits.

Rights of ways, easements, or rights of entry for the Work will be provided by the CITY. The CONTRACTOR shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of Work areas and facilities temporarily required which are necessary in addition to those provided by the CITY. The CONTRACTOR shall indemnify and hold the CITY harmless for all claims for damages caused by such actions.

20. PARTIES EXCLUDED FROM THE WORK

Lists of individuals, firms and organizations which have been debarred, suspended or have voluntarily excluded themselves from Federal Procurement and Non Procurement Program is maintained by US General Services Administration. A copy can be obtained from Superintendent of Documents, US Government Printing Office, Washington, DC 20402, Tel: (202) 783-3238.

The CITY will not conduct business with an individual, firm or organization, and the CONTRACTOR shall not employ or otherwise utilize any Subcontractor, supplier or equipment vendor at any tier which is on the U.S. General Services Administration "List of Parties Excluded from Federal Procurement and Non Procurement Programs". The CONTRACTOR shall not utilize or otherwise employ any subcontractors or suppliers on the CITY's list of nonresponsible bidders maintained by the General Services Division of the Bureau of Contract Administration.

21. BUSINESS TAX REGISTRATION CERTIFICATES

The CONTRACTOR represents that it has, or will obtain upon award, the Business Tax Registration Certificate(s) required by the Los Angeles City Business Tax Ordinance. The CONTRACTOR shall maintain, or obtain as necessary, all such Certificates required of it under said Ordinance and shall not cause or allow any such Certificate to be revoked or suspended.

The CITY requires all firms that have business activity within the City of Los Angeles to pay CITY business taxes.

Payments for goods or services will be withheld unless proof of tax compliance is provided to the CITY. All firms and individuals that do business with the CITY will be required to provide a Business Tax Registration Certificate number or an exemption number as proof of compliance with Los Angeles City business tax requirements in order to receive payment for goods or services.

The Tax and Permit Division of the City Clerk's Office has the sole authority to determine whether a firm is covered by business tax requirements.

22. FINANCIAL LIABILITY

The CITY's liability under this Contract shall not exceed the CITY's appropriation to fund the Contract at the time of Contract award. However, if the CITY shall appropriate funds for any successive years, the CITY'S maximum liability shall not exceed the extent of such appropriation, subject to the terms and conditions of this Contract.

THE CONTRACTOR'S RESPONSIBILITIES

23. CONTRACTOR'S OBLIGATIONS

Only competent workers shall be employed on the Work. Any worker, at the journey level or above, employed on the Work shall have a current license or certificate as required for the type of Work being performed, issued by the Department of Building and Safety of the City of Los Angeles and any such other organization as required.

Any person or subcontractor employed who is found by the PROJECT MANAGER AND/OR INSPECTOR to be incompetent, disorderly or otherwise objectionable, or who fails or refuses to perform Work properly, acceptably and as directed shall be immediately removed from the Work by the CONTRACTOR and not be reemployed on the Work.

The CONTRACTOR, at its sole cost and expense, shall perform all labor and services and furnish all the materials, tools, and appliances, except as hereinafter otherwise definitely provided, necessary or proper for performing and completing the Work required, in the manner and within the time stipulated in these specifications. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and such temporary works as may be required. If, at any time before the commencement or during the progress of the Work or any part of it, the CONTRACTOR'S methods or appliances appear to the PROJECT MANAGER or the INSPECTOR to be unsafe, inefficient, or inadequate for securing the safety of the workers, the quality of the Work required, or the rate of progress stipulated, the PROJECT MANAGER or the INSPECTOR may order the CONTRACTOR to increase their safety and efficiency or to improve their character, and the CONTRACTOR shall comply with such orders at its own expense. Neither the making of such demands by the PROJECT MANAGER nor the failure to make such demands shall relieve the CONTRACTOR of its obligation to secure the safe conduct of the Work, the quality of Work required, nor the rate of progress stipulated in the Contract. The CONTRACTOR shall be fully responsible for the safety, efficiency, and adequacy of its plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation. All of the labor and materials shall be performed and furnished strictly pursuant to and in conformity with the Contract Documents, the lines and grades and other directions of the PROJECT MANAGER or the INSPECTOR as given from time to time during the

progress of the Work under the terms of the Contract, and in accordance with working drawings to be furnished from time to time as provided herein. The CONTRACTOR shall complete the entire Work to the satisfaction of the PROJECT MANAGER and INSPECTOR and in accordance with the Specifications and drawings herein mentioned, at the prices fixed in the Contract.

Where articles or materials are especially manufactured or fabricated for delivery under these specifications, the CONTRACTOR shall at all times employ such workforce, plant, materials, and tools as will be sufficient to complete the performance of the Contract and every part thereof within the time limits stipulated herein. If the CONTRACTOR fails to employ sufficient workforce, plant, materials, tools, or to maintain adequate progress, the PROJECT MANAGER may require an increase in progress at any point or points or a modification of plans and procedure in such a manner as to accelerate the Work. Failure to adequately staff the project shall be just cause for the CITY to terminate the Contract.

24. CONTRACTOR'S REPRESENTATIVE AT THE SITE

A technically qualified and English-speaking project representative shall be designated in writing as the CONTRACTOR'S representative at the job site, who shall supervise the Work and shall provide competent supervision of the Work until its completion. The CONTRACTOR'S project representative shall be assigned full time and exclusively to this project. Alternate representatives with qualifications equal to or better than the previous representative may be designated. The CONTRACTOR'S representatives shall have at least five (5) years of verifiable experience as the person primarily responsible for supervision of the Work on projects of the same or similar size and nature as this project. Within five (5) days after the Notice of Award the CONTRACTOR shall provide a statement to the PROJECT MANAGER with the following:

1. Identification and resume, showing the qualifications and experience of the CONTRACTOR'S representative and the alternate appointed to act in the place of the CONTRACTOR'S representative.

2. References of not less than two (2) previous projects on which the CONTRACTOR'S representative and the alternate had supervisory responsibility on a project of a similar nature and at least one-half or more of the cost of this project. Such references shall include names, addresses, and telephone numbers of owner representatives who worked on the project as well as project information such as project type, size, location and duration.

The PROJECT MANAGER reserves the right to disapprove any candidate named as the CONTRACTOR'S representative or alternate who fails to meet the provisions set forth herein. The PROJECT MANAGER reserve the right to remove, without any right to work on the project, either the CONTRACTOR'S representative or alternate, who in the sole opinion of the PROJECT MANAGER has demonstrated incompetence, lack of ability, or other unsuitability to perform supervision of the Work.

If the CONTRACTOR'S representative or alternate leave the employ of the CONTRACTOR, the CONTRACTOR will be required to replace the individual(s) and fulfill the requirements of this Article within fifteen (15) calendar days. In no event shall any Work proceed in the absence of an approved representative.

The CONTRACTOR'S representative or alternate shall have full authority to act on behalf of the CONTRACTOR, including, but not limited to final approval of Change Orders and Supplemental Agreements. All directions given by the PROJECT MANAGER to said representative or alternate shall be considered as having been given to the CONTRACTOR. Such instructions given by the PROJECT MANAGER to the CONTRACTOR'S representative or alternate will be confirmed in writing. All instructions and directions given by the PROJECT MANAGER or the INSPECTOR will be limited to matters properly falling within the PROJECT MANAGER'S or the INSPECTOR'S authority as specified in AUTHORITY OF THE RECREATION AND PARK COMMISSION, PROJECT MANAGER AND INSPECTOR of these General Conditions.

The CONTRACTOR'S representative or alternate shall be present at the site of the Work at all times while Work under the Contract is in progress. Failure to observe this requirement shall constitute suspension of the Work by the CONTRACTOR, until such time as said representative or alternate is again present at the site, and no payment will be allowed for any Work performed in the absence of said representative or alternate. Work performed in violation of these provisions shall be removed and reconstructed, re-fabricated, or reinstalled under the required

supervision. No extensions of time will be granted, nor will additional payment be allowed for any costs to the CONTRACTOR for slowdown, delays, idled equipment, or any other costs incurred by the CONTRACTOR as the direct or indirect result of such suspension.

Whenever the Work is defined as being suspended under the provisions of this Article, any such suspension in excess of ten (10) calendar days shall constitute just cause for the CITY to terminate the Contract under the provisions of TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT) of these General Conditions.

25. FAMILIARITY WITH PLANS AND SPECIFICATIONS

It shall be the responsibility of the CONTRACTOR to be thoroughly familiar with all details of the Project, including the Work of CONTRACTOR'S forces and all Subcontractors. The CONTRACTOR shall call the following to the attention of both the PROJECT MANAGER and the INSPECTOR in writing within twenty-four (24) hours of discovery, before any Work is performed:

1. Errors and omissions in the Plans and Specifications;
2. Work on the Plans or in the Specifications which, if so constructed, would result in a conflict or interference with other Work or the Work of other trades, including the location of fixtures and equipment;
3. Existing improvements visible at the job site, for which no existing disposition is made on the Plans or in the Specifications but which could reasonably be assumed to interfere with the satisfactory completion of the improvements contemplated by the Plans and Specifications.

Failure to notify shall constitute a waiver by the CONTRACTOR of any claim for delay or other damages occasioned by such defect. If the CONTRACTOR proceeds with the Work without instructions from the PROJECT MANAGER, the incorrect Work shall be removed and corrections made to comply with the PROJECT MANAGER'S instructions, at no cost to the CITY. The requirements of this Article are applicable to typographical errors in the Specifications and notational errors on the Plans where ambiguity or inadequate description exists.

26. JOB CONDITIONS

The CONTRACTOR shall visit the job site as soon as practicable after award of the Contract and ascertain all conditions affecting necessary procedure and sequencing of Work operations in the execution of the Work, including condition of available roads and streets, or clearances, restrictions and other limitations affecting transportation and ingress and egress to the job site. The CONTRACTOR shall determine the nature and types of Work to be performed and shall be responsible for all Work to be accomplished.

The CONTRACTOR shall enter the job site as noted in Article 4, SITE SECURITY of the General Requirements. The CONTRACTOR will be restricted to the immediate Work areas on the job site and shall in no case go beyond the Work limits noted on the drawings or as otherwise directed by the PROJECT MANAGER. The job site shall be enclosed with a temporary chain link fence and gates which shall be removed upon completion of the Work. The CONTRACTOR shall confine all operations of the contracted Work to the boundaries of the job site(s) and shall not interfere with CITY personnel and CITY operations or the Work of other contractors working on or near the site.

CONTRACTOR'S employee access to the job site by private vehicles is prohibited.

No vehicle is allowed in the facility or on the job site except delivery trucks and CONTRACTOR'S identified vehicles and equipment. It shall be the CONTRACTOR'S sole responsibility to arrange and pay for offsite employee parking and transportation, if necessary, so as not to affect the availability of public parking on the grounds of the facility or park site. The CONTRACTOR shall fully cooperate with all authorities on the job site and other contractors not related to the Work of this Contract who might be at the job site and shall comply with all regulations in force at the job site.

27. RESPONSIBILITY FOR SITE

The CONTRACTOR shall be in full charge of and be responsible for the job site and the construction Work of this Contract, subject to the directions of the PROJECT MANAGER or the INSPECTOR. Article 33, INTERFACE/COORDINATION REQUIREMENTS of the General Requirements describes interfaces with other

contractors working on the job site. No other operations of any nature shall be performed except as specifically authorized in the Contract Documents or as authorized by the PROJECT MANAGER.

The CONTRACTOR shall exercise care not to damage improvements and adjacent land. The CONTRACTOR shall correct any damage caused within seventy-two (72) hours by restoring the land and improvements damaged to their original condition and shall indemnify and hold the CITY harmless for any such damage as specified in INDEMNIFICATION of these General Conditions.

28. WORKMANSHIP AND MATERIALS

All materials, parts and equipment furnished by the CONTRACTOR for the Work shall be new, high grade and free from defects. Materials and Work quality shall be subject to the INSPECTOR'S approval.

29. INJURY AND ILLNESS PREVENTION - SAFETY MEASURES

Safety is the responsibility of the CONTRACTOR. The CONTRACTOR shall observe and comply with the safety provisions of all applicable laws, building and construction codes, safety and health regulations of the California Code of Regulations, and with applicable CITY Safety Policies.

If a Work procedure or condition exists that is a violation of said safety standards, the PROJECT MANAGER or INSPECTOR may order the CONTRACTOR to comply with said safety provisions, and the CONTRACTOR shall comply with such orders at its own expense. If the CONTRACTOR fails to act promptly, the PROJECT MANAGER or INSPECTOR is authorized to suspend the Work. Failure of the PROJECT MANAGER or the INSPECTOR to make such demands shall not relieve the CONTRACTOR of its obligations to secure the safe conduct of the Work.

In the event of an emergency constituting an immediate hazard to the health or safety of the public or CITY employees, property, or licensee, the CITY may undertake, at the CONTRACTOR'S sole expense, without prior notice, all Work necessary to correct such hazardous conditions when it was caused by Work of the CONTRACTOR not being in accordance with the requirements of this Contract.

First aid facilities and supplies shall be kept and maintained by the CONTRACTOR at the site of the Work. The CONTRACTOR shall cause all persons within the construction area to wear protective helmets. In addition, all employees of the CONTRACTOR and its Subcontractors shall be provided with, and required to use, personal protective and life saving equipment set forth in California Construction Safety Orders and the OSHA Safety and Health Standards for Construction.

30. PROTECTION OF PERSONS AND PROPERTY AND RESTORATION OF EXISTING IMPROVEMENTS

The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey monuments or reference points without authorization from the PROJECT MANAGER. No pavement breaking or excavation shall be started until all survey monuments or other reference points that will be disturbed by the construction operations have been properly referenced by the PROJECT MANAGER. It shall be the CONTRACTOR'S responsibility to notify the PROJECT MANAGER and the INSPECTOR of the time and location that Work will be done. Such notification shall be sufficiently in advance of construction so that there will be no delay due to waiting for survey points to be satisfactorily referenced for restoration. All survey monuments or reference points disturbed, without authorization by the PROJECT MANAGER, shall be accurately restored by the CITY at the CONTRACTOR'S sole expense after all street or roadway resurfacing has been completed.

All paved areas including asphaltic concrete beams cut or damaged as a result of construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement owner. All pavement which is subject to partial removal shall be neatly saw cut in straight lines.

In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

Where sidewalks have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks, properly protected, promptly after backfilling and shall maintain them in satisfactory condition until the final restoration thereof has been made.

All utilities encountered along the line of the Work shall be maintained continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the PROJECT MANAGER are made. Utilities shall include, but not be limited to, all above or below-ground conduit, pipes, ducts, cables, and appurtenances associated with oil, gas, water, steam, irrigation, process, sewer, storm drain, wastewater, air, electrical, power, instrumentation, communication, telephone, cable, TV, and lighting systems, whether or not owned by the CITY.

The CONTRACTOR shall protect all existing utilities and improvements not designated for removal. Necessary potholing shall be accomplished at the CONTRACTOR'S expense. The CONTRACTOR shall determine the exact locations and depths of all utilities indicated on the drawings. The CONTRACTOR shall make exploratory excavations of all utilities. All such exploratory excavations shall be performed as soon as practicable after award of the Contract and in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR'S Work. When such exploratory excavations show the utility location as indicated on the drawings to be in error, the CONTRACTOR shall so notify the INSPECTOR and the PROJECT MANAGER. The CONTRACTOR should not rely upon plan designation of location of underground utilities. The number of exploratory excavations and extent of potholing required shall be that number which is sufficient to determine the alignment and grade of the utility. No costs shall be allowed for such Work except those included in the CONTRACTOR'S proposal.

Prior to any excavation in the vicinity of any existing underground facilities, the CONTRACTOR shall notify the INSPECTOR and the PROJECT MANAGER, and the respective authorities representing the owners or agencies responsible for such facilities, not less than three (3) working days, nor more than five (5) working days, of their intention to begin excavation. The CONTRACTOR shall make arrangements for and provide access such that a representative of said owners or agencies may be present during such Work.

Where the proper completion of the Work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is shown on the drawings, the CONTRACTOR shall at its own expense, remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement to a place and in a manner as directed by the PROJECT MANAGER, and the owner of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal. When utilities that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the PROJECT MANAGER not less than fifteen (15) days in advance for necessary measures to be taken to prevent interruption of service.

The CONTRACTOR shall notify the PROJECT MANAGER thirty (30) calendar days in advance of any proposed connection, and shall notify the PROJECT MANAGER and the INSPECTOR twenty-four (24) hours prior to the actual connection, to any existing utility.

Any utility or improvement which is damaged by the CONTRACTOR shall be immediately repaired at the CONTRACTOR'S expense, to a condition equal to, or better than, the condition it was in prior to such damage or temporary relocation. If the CONTRACTOR fails or refuses to promptly repair the utility or improvement, the CITY may perform the necessary Work at the CONTRACTOR'S expense and no time extension shall be allowed to the CONTRACTOR. The CONTRACTOR is not relieved of provisions of this Article even in the event such damage occurs after backfilling or is not discovered until after completion of backfilling.

All repairs to a damaged improvement shall be inspected and approved by the INSPECTOR and an authorized representative of the improvement owner before being concealed by backfill or other Work. In case of damage, which in the opinion of the PROJECT MANAGER or the INSPECTOR, threatens the safety of persons or property, the CONTRACTOR shall immediately make all repairs necessary for removal of the hazard. Should the CONTRACTOR fail to promptly take all necessary action, the CITY has the option to remove any hazard resulting

from damages caused by the CONTRACTOR at the CONTRACTOR'S expense without waiving any other rights the CITY may have, and no time extension will be allowed to the CONTRACTOR.

In the event that the CONTRACTOR damages any existing utilities that are not shown on the drawings or the locations of which are not made known to the CONTRACTOR prior to excavation, the CONTRACTOR shall immediately notify the INSPECTOR and take all measures necessary to prevent further damage. The CONTRACTOR shall then immediately make a written report to the PROJECT MANAGER and shall make repairs as directed by the PROJECT MANAGER. Payment for this extra Work will be made pursuant to the provisions contained in Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements.

Notwithstanding that an existing utility or substructure is not shown on the original Plans and Specifications, if the existence and location thereof was made known to the CONTRACTOR prior to excavation, the utility or substructure constitutes an existing known condition, and the CONTRACTOR is responsible for protecting the utility or substructure.

Damage to a utility known to the CONTRACTOR shall be repaired at the CONTRACTOR'S expense.

31. NON-CONFORMING WORK

Except as set forth in this Article, all non-conforming Work and materials, in place or not, shall be removed immediately from the site or corrected to conform to all requirements of the Contract Documents, by the CONTRACTOR, at the sole expense of the CONTRACTOR.

If the CONTRACTOR fails to remove, replace or correct any non-conforming Work or materials within seventy two (72) hours of discovery, the PROJECT MANAGER may cause such Work or materials to be removed and replaced. Such removal and replacement shall be at the sole expense of the CONTRACTOR and all such cost shall be deducted from any amounts that are due or may become due to the CONTRACTOR.

Failure of the INSPECTOR or the PROJECT MANAGER to notify the CONTRACTOR of any non-conforming Work shall not constitute acceptance of any non-conforming Work. The CONTRACTOR'S obligation to remove, replace or correct any non-conforming Work, whenever discovered, shall continue to the end of the guaranty-warranty period provided for in Article 16, GUARANTY-WARRANTY of the General Requirements. The CITY reserves and retains all rights and remedies at law against the CONTRACTOR and their Surety for correction of any and all latent defects discovered after the guaranty-warranty period.

The Contract Documents may be modified for the purpose of allowing non-conforming Work to become acceptable in lieu of the CONTRACTOR'S obligation to remove and replace all such non-conforming Work. Such modification shall be effective only upon the written agreement of the CONTRACTOR and the PROJECT MANAGER. Such written agreement shall be issued as a Change Order, which shall include all of the following provisions.

1. A statement that the Work as constructed is non-conforming Work.
2. The specifications by which the non-conforming Work will be made to conform to the requirements of the Contract Documents.
3. A statement that all modifications to the non-conforming Work shall be at the sole expense of the CONTRACTOR.
4. A statement that the CONTRACTOR waives and releases any and all claims against the CITY, including time and impacts, in any way whatsoever related to the non-conforming Work, the modification of such non-conforming Work, and the time to negotiate such a modification.
5. The amount representing the value of the Work specified in the Contract Documents less the value of the Work as constructed, as a credit to the CITY, which shall be deducted from the amount of the Contract.

No Work shall proceed which shall make the non-conforming Work more costly to correct nor to modify such non-conforming Work until the PROJECT MANAGER and the CONTRACTOR execute such a Change Order. The PROJECT MANAGER may grant permission, in response to a written request from the CONTRACTOR, to proceed with the Work before finalization of such a Change Order, if they find the request to be in the best interest of the CITY.

Any delays or impacts arising on the Work as a result of construction or delivery of non-conforming Work or materials shall be at the CONTRACTOR'S sole expense, regardless of whether the Work ultimately becomes the subject of a Change Order, and no time extension shall be allowed to the CONTRACTOR.

Acceptance by the INSPECTOR of such previous non-conforming Work, after execution of the Change Order, does not act to waive or otherwise negate the CONTRACTOR'S obligations to guarantee such Work as set forth in Article 16, GUARANTY-WARRANTY of the General Requirements.

Failure of the CONTRACTOR to comply with the requirements of this Article shall constitute default of the Contract by the CONTRACTOR and the CITY may terminate the Contract as provided for in TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT).

32. SUBCONTRACTORS AND SUB-SUBCONTRACTORS (Revised as of 2/12/2016)

The Contractor shall perform on the site and with its own organization not less than thirty (30%) of the total Contract Price, unless a different percentage is designated on Schedule "A" SUBCONTRACTORS AND SUPPLIERS in the Instructions to Bidders, page 16. Any items designated "specialty items" in the Bid Proposal may be performed by subcontract and the amount of all such "specialty items" may be deducted from the Contract Price before computing the amount of Work required to be performed by the Contractor with its own organization. The dollar value included in the percentage performed by the Contractor shall include the value of labor, materials and equipment to be incorporated or used in the Work and directly purchased by the Contractor and shall not include the value of Work, including labor, materials and equipment, incorporated or used in the Work, performed or provided by Subcontractors.

Bidders must list all Subcontractors in the Bid, regardless of the dollar amount of the work to be performed, if the Bidder wishes to have the Subcontract amount credited toward meeting the MBE/WBE/SBE/EBE/DVBE/OBE levels of participation of the Project. Subcontractors added to the project following acceptance of the Bid and award of the Project will not be credited toward meeting the MBE/WBE/SBE/EBE/DVBE/OBE levels of participation for this Project.

Listed vendors and/or Suppliers will be limited to 60% of their listed dollar value toward achieving the anticipated MBE/WBE/SBE/EBE/DVBE/OBE levels of participation for this Project, unless the vendor and/or Supplier manufactures or substantially alters the materials/supplies.

The designated percentage of the total Contract Price the Contractor is to perform may not be reduced below that level by the addition of Subcontractor's added after Award of the Project.

The Inspector, acting on behalf of the Board of Recreation and Park Commissioners, will be responsible for approval of all Subcontractors, whether Bid-listed or not, and all Sub-subcontractors employed on the Project.

The Contractor must list in the original bid each Subcontractor who will perform Work or render services in an amount in excess of one-half of 1 percent of the Contractor's total Bid or $10,000.00, whichever is greater.

Subletting or Subcontracting of any portion of the Work in excess of one-half of 1 percent of the Contractor's original total Bid or $10,000.00, whichever is greater, for which no Subcontractor was designated in the original Bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the Inspector setting forth the facts constituting the emergency or necessity.

If the Contractor fails to specify a Subcontractor, or if the Contractor specifies more than one Subcontractor for the same portion of Work to be performed under the Contract in excess of one-half of 1 percent of the Contractor's total original Bid or $10,000.00, whichever is greater, the Contractor agrees that it is fully qualified to perform that portion of Work itself, and that it shall perform that portion itself.

The Contractor shall set forth in its Bid the following: The name, location of the place of business, telephone number, California State Contractor's License Number and dollar amount of each Subcontractor who will perform Work, labor, service, supply specifically fabricated materials or equipment in an amount in excess of one-half of 1 percent of the Contractor's total Bid, or $10,000.00, whichever is greater.

The Contractor shall list only one Subcontractor for each portion of Work as defined by the Contractor in its Bid.

Acceptance by the Board of Recreation and Park Commissioners of its Bid is dependent upon each Bid listed Subcontractor, and all subsequently approved additional Subcontractors, performing the dollar value of Work listed or approved. Any reduction, increase, or other change to any Subcontract amount without prior approval by Board of Recreation and Park Commissioners is considered an Unauthorized Subcontractor Substitution and is subject to a penalty of ten (10) percent of the Subcontract amount, whether Bid-listed or not. A Subcontract dollar value increased or reduced as the result of a Change Order issued by the Engineer to add or delete from the original scope of Work shall not be subject to a penalty for an Unauthorized Subcontract Substitution.

Acceptance by the Board of Recreation and Park Commissioners of its Bid shall not entitle Subcontractors to recognition for any direct or contractual relationship with the City, nor shall it constitute approval of the use of any materials other than those specified.

The Contractor shall be responsible for all acts of all Subcontractors at all tiers. The Contractor shall coordinate all work performed by subcontractors in the interest of the City.

All Subcontractors who will be working on the Project shall be approved in writing by the Inspector prior to beginning Work, regardless of the dollar amount of Work to be performed, and whether or not they were listed in the original Bid.

Requests for approval of all Subcontractors, or request for substitution of a Subcontractor, shall be made in writing to the Inspector located at the Public Works Building, 1149 S. Broadway, 3rd Floor, Los Angeles, CA, 90015, and said request shall contain the following information for each Subcontractor:

1) Project Name
2) Project Work Order Number
3) Subcontractor's Name
4) Subcontractor's Address
5) Subcontractor's Phone Number
6) Subcontractor's Status (WBE, MBE, SBE, EBE, DVBE, OBE)
7) Subcontractor's State of California Contractor License Number
8) Subcontractor's City Business Tax Registration Certificate Number (BTRC)
9) Dollar amount of Subcontract work to be performed
10) Description of Subcontract work to be performed

Failure to provide any of the information listed will result in denial of approval until such time as the information is provided.

Failure to obtain approval of the Inspector prior to each Subcontractor performing Work on the Project may result in suspension of Work by that Subcontractor, removal of Work performed by unapproved Subcontractors, assessment of penalties, and possible sanctions against the Contractor.

Additional Subcontractors may be added after the time of original Bid. The value of Work to be performed by additional Subcontractors may not be greater than one-half of 1 percent of the Contractor's original total Bid or ten thousand dollars ($10,000.00), whichever is greater, unless the Subcontractor will be performing Work added by Change Order causing changes or deviations from the original Contract.

The Contractor shall provide the dollar amount of Work to be performed in all requests for additional Subcontractors. Failure to specify a dollar amount of Work to be performed will result in denial of additional Subcontractors until such time as the amount is provided.

Failure of the Contractor to request and obtain approval for a reduction in either a Bid-listed Subcontract amount or the Subcontract amount of a Subcontract added after the original Bid shall result in a penalty of ten percent of the Subcontract amount.

A Contractor whose Bid is accepted may not:

1) Substitute any person as Subcontractor in place of a Subcontractor listed in the original Bid, except that the Inspector, acting on behalf of the Board of Recreation and Park Commissioners, may consent to the substitution of another Subcontractor for one of the following situations:

A) When the Subcontractor listed in the original Bid or proposal after having had a reasonable opportunity to do so fails or refuses to execute a written contract, when that written contract, based upon the general terms, conditions, plans and specifications for the project involved or the terms of that Subcontractor's written bid, is presented to the subcontractor by the Contractor.

B) When the listed Subcontractor becomes bankrupt or insolvent.

C) When the listed Subcontractor fails or refuses to perform its subcontract.

D) When the listed Subcontractor fails or refuses to meet the bond requirements of the Contractor as set forth herein.

E) When the Contractor demonstrates to the Inspector's satisfaction that the name of the Subcontractor was listed as a result of an inadvertent clerical error.

F) When the listed Subcontractor is not licensed pursuant to the State of California Contractor's License Law.

G) When the listed Subcontractor refuses to obtain a City of Los Angeles Business Tax Receipt Certificate (BTRC).

H) When the Inspector concurs with the Contractor that the Work being performed by the listed Subcontractor is unsatisfactory and not in substantial accordance with the Contract Documents, or the listed Subcontractor is delaying or disrupting the progress of the work.

I) When the listed Subcontractor fails to submit an Affirmative Action Plan acceptable to the Inspector.

J) When the Board of Recreation and Park Commissioners determines that a listed Subcontractor is not a responsible contractor.

2) Permit a Subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor listed in the original Bid, without the consent of the Inspector.

3) Other than in the performance of Change Orders causing changes or deviations from the original Contract, sublet or Subcontract any portion of the Work in excess of one half of 1 percent of the Contractor's total Bid as to which its original Bid did not designate a Subcontractor.

4) Reduce the dollar amount of a Bid-listed Subcontract without the written approval of the Inspector.

A request for substitution of any Subcontractor, whether Bid-listed or not, must be made in writing to the Inspector and must include letter(s) of explanation as to the reason for the requested substitution.

It is considered a substitution if anyone other than the Bid-listed and/or approved Subcontractor(s), including the Contractor, performs any portion of the Work designated to be performed by said Subcontractor.

Failure to obtain approval for a Subcontractor substitution may result in rejection of the affected Work, penalties assessed for failure to obtain approval, and possible sanctions by the City.

All substitutions of Subcontractors, whether MBE/WBE/SBE/EBE/DVBE/OBE or not, shall be approved in writing by the Board of Recreation and Park Commissioners prior to any Work being performed by the substituting Subcontractor.

The Contractor shall conduct a Business Inclusion Program Outreach prior to approval of any requested Subcontractor substitution, regardless of the status (MBE/WBE/SBE/EBE/DVBE/OBE) of the contractor being substituted for. For MBE/WBE/SBE/EBE/DVBE/OBE Subcontractor substitution requests, the Contractor shall comply with the Business Inclusion Program Outreach requirements of Pages 15-15R of the Instructions to Bidders (Volume I). The Business Inclusion Program Outreach for any requested Subcontractor substitution must be reviewed and approved by the Special Research and Investigation Section of the General Services Division of the Bureau of Contract Administration, whether the Subcontractor was Bid listed or approved after the Award of the Project.

There shall be no decrease in dollar value of Work to be performed by Subcontractors approved as a substitute for a Bid-listed Subcontractor without a change in scope of the Work to be performed by the originally Bid-listed Subcontractor. Written evidence of a change of scope must be provided by the Engineer prior to approval of a change in dollar value of a Bid-listed Subcontractor.

Prior to approval of the Contractor's request for substitution, the Inspector shall give notice in writing to the Subcontractor affected by the Contractor's request to substitute and of the reasons for the request. The notice shall be served by certified or registered mail to the last known address of the Subcontractor. The listed Subcontractor who has been so notified shall have five (5) Workdays within which to submit written objections to the substitution. Failure to file these written objections within five (5) Workdays of notification shall constitute the listed Subcontractor's consent to the substitution. Notification by the Inspector may be made by phone in lieu of written notification via certified or registered mail if agreed to by the listed Subcontractor and followed by written request. Upon notification by phone, the listed Subcontractor may file written objections within five (5) days of notification.

If written objections are filed, the Inspector shall give notice of at least five (5) Workdays to the listed Subcontractor of a hearing on the Contractor's request for substitution.

The Contractor, as a condition to assert a claim of Inadvertent Clerical Error in the listing of a Subcontractor, shall within two Workdays after the time of the original Bid opening by the Board of Recreation and Park Commissioners give written notice to the Inspector and the Board of Recreation and Park Commissioners and copies of such notice to both the Subcontractor he claims to have listed in error and the intended Subcontractor who had bid to the Contractor prior to Bid opening.

Written notice of an Inadvertent Clerical Error shall be forwarded within two (2) days after the time of the original Bid opening by every Contractor claiming such an error. Failure to submit such notice within the time prescribed shall make any such subsequent claim of Inadvertent Clerical Error invalid.

Any listed Subcontractor who has been notified by the Contractor of an Inadvertent Clerical Error shall be allowed six (6) Workdays from the time of the Bid opening to submit to the Inspector and to the Contractor written objection to the Contractor's claim of Inadvertent Clerical Error. Failure of such listed Subcontractor to file such written notice within the six (6) Workdays shall constitute agreement that an advertent clerical error was made.

The Inspector shall, in the absence of compelling reasons to the contrary, consent to the requested substitution based on an Inadvertent Clerical Error if:

1) The Contractor, the Subcontractor listed in error, and the intended Subcontractor each submit an affidavit to the Inspector along any additional information as the parties may wish to submit that an Inadvertent Clerical Error was in fact made, provided that the affidavits from each of the three parties are filed within eight (8) Workdays from the time of the original Bid opening, or

2) If such affidavits are filed by both the Contractor and the intended Subcontractor within eight days of the original Bid opening but the Subcontractor whom the Contractor claims to have listed in error does not submit within six (6) Workdays, to the Inspector and to the Contractor, written objection to the Contractor's claim of Inadvertent Clerical Error as provided in this article.

   If such affidavits are filed by both the Contractor and the intended Subcontractor but the listed Subcontractor has, within six (6) Workdays from the time of the original Bid opening, submitted to the Inspector and to the Contractor written objection to the Contractor's claim of Inadvertent Clerical Error, the Inspector shall investigate the claims of all parties and schedule a public hearing before the Board of Recreation and Park Commissioners to determine the validity of such claims. Any determination shall be based on the facts contained in the declarations submitted under penalty of perjury by all three parties and supported by testimony given to the Board of Recreation and Park Commissioners. The Board of Recreation and Park Commissioners may, on its motion or that of any other party, admit testimony of other Contractors, any Bid registries or depositories, or any other party in possession of facts, which may have a bearing on the decision of the Board of Recreation and Park Commissioners. The findings of the Board of Recreation and Park Commissioners shall be final.

33. RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY

In case of an emergency that threatens loss of or damage to property or injury to persons, the CONTRACTOR shall act, without instructions from the CITY, as the situation may warrant. The CONTRACTOR shall immediately inform the PROJECT MANAGER and the INSPECTOR of the emergency action taken. Any claim shall be submitted to the PROJECT MANAGER. If practical the amount of compensation, if any, shall be determined by agreement prior to the issuance of a Change Order. However, if the emergency is created or aggravated by the CONTRACTOR, it shall be liable for the resulting damages. If the CONTRACTOR fails to take the necessary action as required by such an emergency the CITY may assign another CONTRACTOR or use its own forces to perform the emergency Work at the CONTRACTOR'S sole expense.

34. ASSIGNMENT

The CONTRACTOR shall not assign, transfer, convey or otherwise dispose of this Contract or any of the proceeds there under unless written consent of the CITY has been obtained. No right under this Contract or claim for any proceeds due or to become due hereunder shall be asserted against the CITY, or persons acting for the CITY, by reason of any so-called assignment, transfer or conveyance of this Contract or any part thereof unless such assignment, transfer or conveyance has been authorized by the written consent of the CITY. The instrument of assignment, transfer or conveyance shall contain a clause subordinating the claim of the assignee, transfer or conveyor to all prior liens for services rendered or materials supplied for the execution of the Work.

35. INDEPENDENT CONTRACTOR

The CONTRACTOR represents that it is fully experienced and properly qualified to perform the class of Work required for the CONTRACT and that it is properly licensed, equipped, organized and financed to perform the Work. The CONTRACTOR shall be an independent contractor. The CONTRACTOR is not an agent of the CITY in the performance of the CONTRACT, and shall maintain complete control over its employees and its Subcontractors and Suppliers of any tier. Nothing contained in the CONTRACT or any Subcontract awarded by the CONTRACTOR shall create any relationship between any Subcontractor and the CITY. The CONTRACTOR shall perform the Work in accordance with its own methods, in compliance with the terms of the CONTRACT.

INDEMNIFICATION AND INSURANCE REQUIREMENTS

36. INDEMNIFICATION

Except for the active negligence or willful misconduct of the CITY, the CONTRACTOR undertakes and agrees to defend, indemnify and hold harmless, through legal counsel acceptable to the CITY, the CITY, and any and all of the CITY'S Boards, Officers, Agents, Employees, Assigns, and Successors in Interest from and against all suits and causes of action, claims, losses, demands and expenses, including, but not limited to, attorney's fees and cost of litigation, damage or liability of any nature whatsoever, arising out of or related to the performance or nonperformance by CONTRACTOR or its Subcontractors, Sub-Subcontractors, or Suppliers, of any tier, of any portion of the construction of the Project, including but not limited to CONTRACTOR'S negligent acts, errors, omissions, breach of contract, breach of warranty (express or implied), or willful misconduct.

It is agreed that such defense and indemnity shall extend to the CITY'S PROJECT MANAGER, Architect/Engineer or other Design Consultant providing services under written agreement with the CITY covering any portion of the Project. Provided, however, that the Design Consultant shall be solely responsible for the enforcement of any request made by said Consultant for indemnification or defense by the CONTRACTOR. It is further provided that the CITY shall have no liability whatsoever for any failure of the CONTRACTOR to comply with any request from the Consultant for indemnity or defense.

It is further agreed that the defense and indemnity obligations of the CONTRACTOR under this Article shall not extend to the liability of the Design Consultant or its agents, employees or subconsultants, arising as a result of such indemnitee's own active negligence, errors or omissions or from (1) the preparation or approval of maps, Plans, opinions, reports, surveys, change orders, designs or Specifications, or (2) the giving of or failure to give directions or instructions by the indemnitee provided that such giving or failure to give is the primary cause of the dame or injury.

37. INSURANCE

A. GENERAL

During the term of this Contract and without limiting the CONTRACTOR's indemnification of the CITY, the CONTRACTOR shall provide and maintain at its own expense, insurance having the limits customarily carried and actually arranged by the CONTRACTOR but not less than the amounts and types listed on the Insurance Requirements Form in Volume 1 of these Contract Documents, covering its operations hereunder subject to the following conditions as they may variously apply:

1. ADDITIONAL INSURED/ADDITIONAL INTEREST/LOSS PAYEE

The CITY, it's Recreation and Park Commissions, Officers, Agents, Employees and Design Consultant shall be included as:

a. Additional Insureds in all required General Liability and property insurance and Additional Interests in all required Automobile Liability insurance.

b. Named Insureds in all required Owners and Contractors Protective Liability insurance policies.

c. Loss Payee As Its Interest May Appear in all required property, fidelity or Surety coverages.

d. Listing of other entities as additional insures may be required for specific projects due to their funding source (such as, Prop A funded projects require that Los Angeles County be listed as an additional insured).

The CITY and other interests listed above need not be named on Workers' Compensation/Employer's Liability, Professional Errors and Omissions and Second-party Legal Liability coverages (such as Garage Keepers' Legal).

2. INSURANCE APPROVAL

All insurance required hereunder shall conform to the CITY requirements established by Charter, ordinance or policy. Evidence of insurance shall be submitted to the Department's Risk Control Coordinator and approved by the City Attorney prior to commencement of any Work or tenancy under this Contract in accordance with the Los Angeles Administrative Code.

3. ALTERNATIVE PROGRAMS

Alternative Risk Financing mechanisms such as Risk Retention Groups, Risk Purchasing Groups, off-shore carriers and captive insurance programs are subject to review of their financial statements by the CITY before an approval can be granted by the City Attorney.

4. ADMITTED CARRIER/LICENSED CALIFORNIA BROKER

Insurance shall be obtained from brokers or carriers authorized to transact insurance business in California. Surplus lines insurance from carriers who are not admitted in California must be submitted through a California-licensed broker or agent.

Surplus lines coverage must also contain a Service of Suite provision whereby the underwriters will submit as necessary to any court of competent jurisdiction in California and agree that all matters arising there under will be determined in accordance with the law and practice of such court. It must further give the name and address of the underwriter's agent for service of process located within California or must nominate the California Insurance Commissioner as such agent.

5. PRIORITY OF COVERAGE

The CONTRACTOR's insurance shall not call on the CITY's program for contributions.

6. CANCELLATION/REDUCTION IN COVERAGE NOTICE

With respect to the interest of the CITY, if an insurance company elects to cancel insurance before the stated expiration date, or declines to renew in the case of a continuous policy, or materially reduces the coverage period by changing the retroactive date (if any), or the extended discovery period (if any), or reduces the stated limits other than by impairment of an aggregate limit, or materially reduces the scope of coverage which affects the CITY's interest, the company will provide the CITY at least thirty (30) calendar days prior written of such election. Notice will be made by receipted delivery addressed as follows: CITY ATTORNEY, INSURANCE AND BONDS, 1240 City Hall East, 200 NORTH MAIN STREET, LOS ANGELES, CA 90012-4168. It is understood, however, that such notice to the CITY shall not affect the company's right to give a lesser notice to the Named Insured in the event of nonpayment of premium. (L.A. Admin. Code Section 11.54).

7. ACCEPTABLE EVIDENCE

The appropriate CITY Special Endorsement forms, contained in Volume 1 of these Contract Documents, are the preferred form of evidence of insurance. Alternatively, the CONTRACTOR may submit two (2) certified copies of the policy or other evidence acceptable to the City Attorney containing language which complies with subparagraphs 1) through 6) above.

With respect to Professional Liability insurance, either a signed copy of the Policy Declarations Page or a letter from the CONTRACTOR's insurance broker certifying coverage, together with a thirty (30)

day cancellation notice endorsement in favor of the CITY as specified in subparagraph 6) will satisfy this requirement.

8. SEPARATION OF INSUREDS

Except with respect to the insurance company's limits of liability, each liability insurance policy shall apply separately to each insured against whom a claim or suit is brought. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included.

9. RENEWAL

Once the insurance has been approved by the CITY, evidence of renewal of an expiring policy may be submitted on a manually signed renewal endorsement or certificate form. If the policy or carrier has changed, however, new evidence as specified in paragraphs 1) through 8) above, must be submitted.

B. AGGREGATE LIMITS/REDUCTION IN COVERAGE

If any of the required insurance coverages contain aggregate limits, or apply to other operations or tenancy of the CONTRACTOR not related to this Contract, the CONTRACTOR shall give the CITY prompt, written notice of any incident, occurrence, claim, settlement or judgement against such insurance which in the CONTRACTOR's best judgement may diminish the protection such insurance affords the CITY. Further, the CONTRACTOR shall immediately take all reasonable and available steps to restore such aggregate limits or shall provide other insurance protection for such aggregate limits. The CITY may, at its option, specify a minimum acceptable aggregate for each line of coverage required.

The CONTRACTOR shall not make any substantial reductions in scope of coverage (e.g., elimination of contractual liability or reduction of discovery period) which may affect the CITY's protection without the CITY's prior written consent.

C. SELF-INSURANCE AND SELF-INSURED RETENTIONS

Self-insurance programs and self-insured retention in insurance policies are subject to separate approval by the CITY upon review of evidence of the CONTRACTOR's financial capacity to respond. Additionally, such programs or retention must provide the CITY with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance.

D. MODIFICATION OF COVERAGE

The CITY reserves the right at any time during the term of this Contract to change the amounts and types of insurance required hereunder by giving the CONTRACTOR ninety (90) calendar days advance written notice of such change. If such change should result in substantial additional cost to the CONTRACTOR, the CITY agrees to negotiate additional compensation.

E. FAILURE TO PROCURE INSURANCE

The required coverage and limits are subject to availability on the open market at reasonable cost as determined by the CITY. Non-availability or non-affordability must be documented by a letter from the CONTRACTOR'S insurance broker or agent indicating a good faith effort to procure the required insurance and showing, as a minimum, the names of the insurance carriers and the declinations or quotations received from each.

Within the foregoing constraints, the CONTRACTOR'S failure to procure or maintain required insurance or a self-insurance program during the entire term of this Contract shall constitute a material breach of this Contract under which the CITY may immediately suspend or terminate this Contract or, at its discretion, procure or renew such insurance to protect the CITY'S interests and pay any and all premiums in connection therewith, and recover all monies so paid from the CONTRACTOR.

F. UNDERLYING INSURANCE

The CONTRACTOR shall be responsible for requiring indemnification and insurance as it deems appropriate from its consultants, agents and Subcontractors, if any, to protect the CONTRACTOR's and the CITY'S interests, and for ensuring that such persons comply with any applicable insurance statutes. The CONTRACTOR is encouraged to seek professional advice in this regard.

G. WORKERS' COMPENSATION

By signing this Contract, the CONTRACTOR hereby certifies that it is aware of the provisions of Section 3700 *et seq.*, of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and that it will comply with such provisions at all such times as they may apply during the performance of the Work pursuant to this Contract.

A waiver of subrogation in favor of the CITY will be required when Work is performed on CITY premises under hazardous conditions.

H. ALL RISK BUILDER'S RISK/INSTALLATION FLOATER

During the course of construction, the CONTRACTOR shall secure and maintain an All Risk Builder's Risk Insurance policy covering loss, damage or destruction of property, including materials in transit and stored on and off site, in an amount equal to the value of the construction and materials on hand.

An Installation Risk or "Floater" Policy, written to cover only specific types of equipment during construction, may be provided to cover damage to Work or high valued equipment or materials.

Coverage shall remain in force until the Work is completed and accepted by the CITY. Acceptable evidence of coverage shall be in the form of an endorsement to the policy which names the CITY as an additional named insured and as Loss Payee As Its Interest May Appear.

I. TYPICAL COVERAGES REQUIRED

The coverages required in A above shall be at least as broad as:

1. General Liability: Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 00 01).
2. Automobile Liability: Insurance Services Office Form Number CA 00 01 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
3. Professional Liability: If applicable, errors and omissions liability appropriate to the consultant's profession, with a discovery period of not less than twelve (12) months after completion of Work or termination of Contract.

J. TYPICAL LIMITS OF LIABILITY

Unless otherwise specified in Form Gen. 146/IR, the CONTRACTOR shall maintain limits no less than:

1. General Liability: $1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability or other form with a general aggregate limit is used, either the general aggregate shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: $1,000,000 per accident for bodily injury and property damage, combined or equivalent in split limits.
3. Employer's Liability: $1,000,000 per accident for bodily injury or disease.
4. Professional Liability: $1,000,000 per occurrence.

K. CONTRACT BONDS

Before the execution of the Contract by the RECREATION AND PARK COMMISSION, the bidder shall file with the RECREATION AND PARK COMMISSION Surety bonds satisfactory to the RECREATION AND

PARK COMMISSION in the amounts and for purposes noted below. Bonds shall be duly executed by a responsible corporate Surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California. Bonds shall be issued by a Surety who is listed in the latest revision of U.S. Department of Treasury Circular 570, is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract. The Bidder shall pay all bond premiums, costs, and incidentals. On Contracts estimated by the PROJECT MANAGER to be less than $2 million, bonds may be obtained from an insurance company with a Certificate of Authority from the California Insurance Commissioner authorizing the company to write Surety insurance within the State of California.

Each bond shall be signed by both the Bidder and the Surety, and the signature of the authorized agent of the Surety shall be notarized.

The Bidder shall provide two good and sufficient surety bonds. The "Payment Bond" (Material and Labor Bond) shall be for not less than one hundred percent (100%) of the Contract price, to satisfy claims of material suppliers and of mechanics and laborers employed by it on the Work. The bond shall be maintained by the CONTRACTOR in full force and effect until the Work is accepted by the RECREATION AND PARK COMMISSION, and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

The "Performance Bond" shall be for one hundred percent (100%) of the Contract price to guaranty faithful performance of all Work, within the time period prescribed, in a manner satisfactory to the RECREATION AND PARK COMMISSION, and that all materials and Workmanship will be free from original or developed defects, and comply with requirements and guaranty specified in Article 16, GUARANTY-WARRANTY of the General Requirements.

Should any Surety at any time be unsatisfactory to the RECREATION AND PARK COMMISSION, notice will be given the CONTRACTOR to that effect. No further payments shall be deemed due or will be made under the contract until a new Surety shall qualify and be accepted by the RECREATION AND PARK COMMISSION.

Changes in the Work, or extensions of time, made pursuant to the Contract, shall in no way release the CONTRACTOR or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety. In addition to the bonds detailed above, the CONTRACTOR shall provide a guarantee bond as detailed in Article 16, GUARANTY-WARRANTY of the General Requirements.

38. SERVICE OF NOTICE

The delivering of any notice, instruction, claim or protest, or other written communication, personally to the CONTRACTOR or the CONTRACTOR'S representative or to the PROJECT MANAGER, or to the City Clerk of the CITY shall constitute service therefore upon the CONTRACTOR, the PROJECT MANAGER, or the CITY, respectively.

The depositing of a post-paid (Registered Mail) wrapper directed to the official address of the CONTRACTOR, the PROJECT MANAGER, or the CITY in any post office, of any notice, instruction, claim or protest, or written communication, shall be deemed sufficient service thereof upon the CONTRACTOR, the PROJECT MANAGER, or the CITY, respectively, and the date of said service shall be the day following the date of postmark.

The official address of the CONTRACTOR shall be the address given in the accepted bid or such other address as the CONTRACTOR may subsequently designate in writing either to the PROJECT MANAGER or to the CITY. The official name and address of the PROJECT MANAGER and the CITY will be supplied to the CONTRACTOR after the award.

39. AGENT TO ACCEPT SERVICE

The CONTRACTOR shall maintain within Los Angeles County a duly authorized agent as identified in the Article entitled SERVICE OF NOTICE to accept service of legal process on its behalf, and shall keep the CITY advised of such agent's name and address during the duration of the CONTRACT and for three (3) years after the Final

Payment, or as long as the CONTRACTOR has warranty obligations under Article 16, GUARANTY-WARRANTY of General Requirements, whichever period terminates later. In the event that no such duly authorized agent is on file with the CITY, the CONTRACTOR agrees that the Secretary of State of the State of California shall be the Contractor's agent for service of legal process.

PROGRESS OF WORK

40. TEMPORARY SUSPENSION OF WORK

If the Work of the Contract is suspended or delayed, the CONTRACTOR shall so notify the PROJECT MANAGER in writing within twenty-four (24) hours after the start thereof. If the CONTRACTOR is entitled to reimbursement for such suspension or delay, as specified hereinafter, the CONTRACTOR shall submit a completely detailed statement of the costs thereof, to the PROJECT MANAGER, within twenty (20) calendar days after the termination thereof. Failure to submit such statement of costs or notification within the time specified shall be deemed a waiver of any claims for delay or damages or both by the CONTRACTOR.

If the Work of the Contract is suspended or delayed through no fault of the CITY, all expenses and losses shall be borne by the CONTRACTOR.

If the Work of the Contract is suspended or delayed by an act of the CITY, or by failure of the CITY to furnish required information, and the CONTRACTOR thereby incurs expenses or sustains losses which could not have been avoided by the judicious handling of forces and equipment, and if by a diligent prosecution of the Work the CONTRACTOR could not have completed the Work before such suspension, the CONTRACTOR will be paid such amount as the RECREATION AND PARK COMMISSION may find to be a fair and reasonable compensation for such part of the CONTRACTOR'S actual loss. In no case shall any compensation be made to cover any loss other than actual cash paid for wages, rental of equipment, and materials used in protection of the Work, all of which must be supported by satisfactory written evidence. Such wages shall not include the wages or salary of any individual not necessary for protection of the Work. The CONTRACTOR shall not be entitled to any mark-up for overhead or profit on damages or for extended duration.

The CONTRACTOR shall maintain complete and accurate daily records of all costs due to delay, clearly distinguishing them from the costs of other portions of the Work, and shall submit a detailed written report of such costs to the PROJECT MANAGER within twenty (20) calendar days of incurring the delay. Failure to comply shall result in waiver by the CONTRACTOR to any claims for additional payment and schedule change. In addition, the CONTRACTOR shall submit evidence of any cause of delay specified herein if it has not already done so.

As soon as practicable, following receipt of such report and evidence, if required, the PROJECT MANAGER will determine the nature and extent of such costs and will, if the PROJECT MANAGER finds that payment is due, issue a Change Order therefore, subject to the provisions in Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements. If the PROJECT MANAGER determines that payment is not due, the CONTRACTOR will be so advised in writing. Should the CONTRACTOR disagree with such finding, CONTRACTOR may submit a notice of protest to the PROJECT MANAGER as provided in CLAIMS AND PROTESTS in these General Conditions. The CONTRACTOR shall provide the PROJECT MANAGER with access to its daily cost records or certified copies thereof as requested. All such records shall be retained by the CONTRACTOR and open to inspection and audit by the CITY and the PROJECT MANAGER'S authorized representatives. Except for the additional compensation provided herein before, the CONTRACTOR shall have no claim for damage or compensation for any delay or hindrance whether or not contemplated by the Contract.

41. UNAVOIDABLE DELAY

Should the CONTRACTOR be obstructed or delayed or completion of the Work from causes beyond its control and without its fault or negligence, and solely due to acts of God, acts of government in its sovereign capacity, riots, insurrections, wars, fires, floods, earthquakes, tidal waves, epidemics, quarantine restrictions, industry-wide strikes, freight embargoes, or unusually severe weather, it shall be entitled to a noncompensable extension of time.

The CONTRACTOR shall only be entitled to a noncompensable extension of time for Unavoidable delay in the Work which negatively impacts the critical path of the approved project schedule, and causes the Work of the project to extend beyond the approved Contract Completion date.

The CONTRACTOR shall be entitled to a noncompensable time extension only if it notifies the PROJECT MANAGER immediately at the time the CONTRACTOR is prevented from proceeding with the Work and follows with written notification of the causes of the delay within five (5) calendar days from the beginning of any delay. Also, the CONTRACTOR shall notify the PROJECT MANAGER immediately at the end of the delay and follow up with written notification of the cessation of delay within five (5) calendar days from the end of the delay.

Any claim for a time extension shall be made in writing within twenty (20) calendar days after the conclusion of the delay. The PROJECT MANAGER shall ascertain the facts and the extent of the delay and extend the time for completing the Work if, in his/her judgement, the findings of fact justify such an extension. The PROJECT MANAGER'S decision shall be final and conclusive, subject only to appeal as provided by CLAIMS AND PROTESTS of these General Conditions.

42. ARCHAEOLOGICAL AND PALEONTOLOGICAL DISCOVERIES

If discovery is made of items of archaeological or paleontological interest, the CONTRACTOR shall immediately cease excavation in the area of discovery and shall not continue until ordered by the PROJECT MANAGER. When resumed, excavation operations within the area of discovery shall be as directed by the PROJECT MANAGER.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones and fossils. The CONTRACTOR shall be entitled to an extension of time and compensation in accordance with the provision of TEMPORARY SUSPENSION OF WORK of these General Conditions.

43. OTHER CONTRACTS

The CITY may perform other Work related to the Project at the site by the CITY'S own forces, have other Work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If such other Work to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other Work; and, if the CONTRACTOR believes that such performance will involve additional expense to the CONTRACTOR or requires additional time and the parties are unable to agree as the extent thereof, the CONTRACTOR may make a claim therefore as provided under CLAIMS AND PROTESTS of these General Conditions.

The CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or the CITY, if the CITY is performing the additional Work with the CITY'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such Work, and shall properly connect and coordinate the Work with theirs. The CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other Work. The CONTRACTOR shall not endanger any Work of others by cutting, excavating or otherwise altering their Work and will only cut or alter their Work with the written consent of the PROJECT MANAGER and the others whose Work will be affected. The duties and responsibilities of the CONTRACTOR under this Article are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of the CONTRACTOR in said direct contracts between the CITY and such utility owners and other contractors.

If any part of the CONTRACTOR'S Work depends upon proper execution or results of the Work of any such other contractor or utility owner or the CITY, the CONTRACTOR shall inspect and promptly report to the PROJECT MANAGER in writing any delays, defects or deficiencies in such Work that renders it unavailable or unsuitable for such proper execution and results. The CONTRACTOR'S failure to do so will constitute an acceptance of the other Work as fit and proper for integration with the CONTRACTOR'S Work except for latent or nonapparent defects and deficiencies in the other Work.

44. TERMINATION OF CONTRACT BY CITY (CONTRACTOR NOT AT FAULT)

The CONTRACT may be terminated, in whole or in part, at any time, by the CITY, at its sole discretion, without cause and for the CITY'S convenience. Such termination will be accomplished by delivery of a notice of Termination to the CONTRACTOR, specifying the extent to which performance of the Work under the CONTRACT or portion of the CONTRACT shall be terminated and the date upon which such termination shall become effective.

After receipt of a Notice of Termination, except as otherwise directed by the CITY the CONTRACTOR shall:

1. Stop Work under the CONTRACT on the date and to the extent specified in the Notice of Termination.
2. Notify the CITY in writing of all outstanding orders, Subcontracts and contracts entered into by CONTRACTOR for performance of the Work, including the (i) name and address of the vendor, supplier or Subcontractor; (ii) a copy of the complete contract, order or Subcontract; (iii) an accounting of the Work performed and compensation earned by the vendor, supplier or Subcontractor, and (iv) such other information as the CITY may request to assist it in determining whether to terminate or accept assignment of the order, Subcontract or contract.
3. Upon written notice by CITY, terminate all Subcontracts, orders and contracts, of any tier, related to the performance of the Work that the CITY determines shall be terminated and not assigned.
4. Place no further orders or Subcontracts for Goods or services, except as may be necessary for completion of that portion of the Work that has not been terminated.
5. Settle outstanding liabilities and claims arising out of such termination of orders and Subcontracts, with the Acceptance of the CITY if required (which Acceptance shall be final for the purposes of this Article). Assign to the CITY in the manner, at the times, and to the extent directed by the CITY all of the rights, titles, and interests of the CONTRACTOR under such orders, contracts and Subcontracts so terminated.
6. Transfer title and deliver to the CITY in the manner, at the times and to the extent directed by it, the:
    a. Fabricated or unfabricated parts, Work in process, completed Work, supplies, and other Goods procured as a part of, or acquired in connection with the performance of the Work terminated; and
    b. Completed or partially completed plans, drawings, information and other items that would have been required (per the Technical Specifications) to be furnished to the CITY if the Contract had been completed.
7. Use its best efforts to sell the property of the types referred to above in the manner, at the times, to the extent, and at the price(s) directed or authorized by the CITY, providing that the:
    a. CONTRACTOR is not required to extend credit to any purchaser;
    b. CONTRACTOR may acquire any such property under the prescribed conditions; and/or proceeds of any such transfer or disposition are applied or otherwise credited to reduce payments made by the CITY to the CONTRACTOR under the CONTRACT.
8. Take any action that may be necessary, or that the CITY may direct, for the protection and preservation of the property related to the CONTRACT that is in the possession of the CONTRACTOR and in which the CITY has or may acquire an interest.
9. Complete performance of that portion of the Work that has not been terminated by the Notice of Termination, as applicable and in accordance with the CONTRACT.

After receipt of a Notice of Termination for the CITY's convenience, the CONTRACTOR shall submit its termination claim to the CITY requesting payment of such sums as are permitted under the terms of this Article, in the form and with the certification(s) prescribed by the CITY for Claims and Protests. Such Claim shall be submitted promptly but in no event later than six months from the effective date of termination, unless one or more extensions are granted in writing by the CITY upon written request by the CONTRACTOR during such six month period or authorized extension thereof. However, the CITY may receive and act upon any termination claim at any time after the six month period or any extension thereof, if it determines that the facts justify such action. Upon failure of the CONTRACTOR to submit its termination claim within the time specified, the CITY will determine the amount due the Contractor, if any, on the basis of information available, and will pay the CONTRACTOR the amount so

determined. Such determination shall be final and binding and payment shall be in full settlement for the Work performed under the CONTRACT.

Subject to the provisions of this Article, the CONTRACTOR and the CITY may agree upon the total or partial amount to be paid to the CONTRACTOR by reason of the total of or partial termination pursuant to this Article. The agreed upon amount shall under no circumstances include any sum for lost profits on the terminated portion of the Work or for consequential damages, of any kind. If agreement is reached, the CONTRACT will be amended by Modification accordingly and the CONTRACTOR will be paid the agreed upon amount.

In the event of failure of the CONTRACTOR and the CITY to agree on the total amount to be paid the CONTRACTOR by reason of the termination of Work pursuant to this Article, the CITY will pay the CONTRACTOR the amounts determined by the City as follows, exclusive of any amounts agreed upon in accordance with the preceding Paragraph:

The CONTRACTOR'S actual cost for the Work properly performed by the CONTRACTOR as of the date of termination, including a 5% allowance for profit on such costs; plus, the reasonable cost of preserving and protecting property; plus other reasonable costs incidental to the termination of the Work under the CONTRACT, including expense incurred to determine the amounts due; provided however, that the maximum payable or paid for any portion of the completed Work shall not exceed the values listed in the corresponding bid item of Schedule of Values.

The total sum to be payable or paid to the CONTRACTOR, exclusive of the settlement amounts described in the Paragraph immediately above, shall not exceed the total CONTRACT Price less the:

1. Payments made previously by CITY for the Work; plus
2. A prorated portion of the total CONTRACT Price for the terminated portion of the Work as determined by the PROJECT MANAGER.

Except for normal spoilage and to the extent that the CITY will have otherwise expressly assumed the risk of loss, the fair value (as determined by the CITY) of property that is destroyed, lost, stolen, or damaged (so as to become undeliverable to the CITY or other buyer as described above) shall be excluded from the amounts paid to the CONTRACTOR.

In arriving at the amount due the CONTRACTOR under this Article, a deduction shall be made for the following:

1. Any claim that the CITY may have against the CONTRACTOR in connection with the CONTRACT; and
2. The agreed upon price for and/or proceeds from the sale of Goods or other items acquired or sold by the CONTRACTOR that have not been otherwise recovered by or credited to the CITY.

Under such terms and conditions as it may prescribe and at its sole discretion, the CITY may make partial payments against costs incurred by the CONTRACTOR in connection with terminated portion of the CONTRACT whenever the CITY decides that the aggregate of such payments is within the amount to which the CONTRACTOR is entitled hereunder. If the total of such payments is in excess of the amount finally agreed upon or determined to be due under this Article, such excess shall be payable by the CONTRACTOR or to the CITY upon demand together with interest at a rate equal to that set forth in California Code of Civil Procedure, Section 685.010.

Under no circumstances shall the CONTRACTOR be entitled to anticipatory or unearned profits or consequential damages as a result of a termination of partial termination under this Article, or for any other termination by the CITY. The payment to the Contractor determined in accordance with this Article shall constitute the exclusive remedy of the CONTRACTOR for termination hereunder.

Anything contained in the CONTRACT to the contrary notwithstanding, a termination under this Article shall not waive any right or claim to damages that the CITY may have; the CITY may pursue any clause of action that it may have by law or under the CONTRACT; and shall not relieve CONTRACTOR of its warranty obligations with respect to any Work performed prior to such termination.

If the termination hereunder is only for a part of the Work, the Contract Price shall be reduced by the amount of the Contract Price applicable to the portion of the Work, which is terminated, including overhead and profit, on the basis of one or more of the following:

1. Unit prices stated in the CONTRACT or agreed upon by the CITY and the CONTRACTOR.
2. A lump sum determined by the PROJECT MANAGER, based on the estimate costs including overhead and profit of the terminated portions of the Work.

45. TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT)

In the event of conduct by the CONTRACTOR which is determined by the PROJECT MANAGER or the to constitute default, the CITY may either suspend the Work under the provisions of TEMPORARY SUSPENSION OF WORK of these General Conditions or, upon ten (10) calendar days' written notice to the CONTRACTOR, terminate the Contract as provided herein. Default by the CONTRACTOR shall occur whenever it shall declare bankruptcy; become insolvent or assign its assets for the benefit of its creditors; fail to provide materials, equipment, or workmanship meeting the requirements of the Specifications; disregard or violate provisions of the Contract Documents or the PROJECT MANAGER's instructions; fail to prosecute the Work according to the approved progress schedule; or fail to provide a qualified representative, competent workers or Subcontractors. Upon request, the RECREATION AND PARK COMMISSION will provide the CONTRACTOR a hearing by the RECREATION AND PARK COMMISSION to contest the recommendation of the PROJECT MANAGER as to default by the CONTRACTOR.

In the event the Contract is terminated pursuant to this Article, the CITY may take possession of the Work and of all materials, tools, equipment, and property of the CONTRACTOR, which have been provided in connection with the Work, and may complete the Work by whatever method or means the CITY may select. The unpaid balance of the Contract cost for completing the Contract Work shall be used to complete the Work in accordance with the Contract Documents. If cost of completing the Work exceeds the unpaid balance, the CONTRACTOR shall pay the excess amount to the CITY. If such cost is less than the unpaid balance, the CONTRACTOR shall not have claim to the difference except to such extent as may be necessary, in the opinion of the PROJECT MANAGER, to reimburse the CONTRACTOR or the CONTRACTOR'S sureties for any unpaid expense properly incurred for materials, tools, equipment, property, and labor devoted to the prosecution of the Work, or which the CITY shall have received the benefit. In computing such expenses, as it relates to equipment and property, the salvage value at completion of Work shall be deducted from the salvage value at the time the contract was terminated, and the difference shall be considered as an expense. If after termination for failure of the CONTRACTOR to fulfill contractual obligations (CONTRACTOR Default), it is determined by a Court of competent jurisdiction that the CONTRACTOR had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the CITY. In such an event, adjustment of the Contract price shall be made as provided in TERMINATION OF CONTRACT BY CITY (CONTRACTOR NOT AT FAULT) of these General Conditions.

46. PRE-FINAL INSPECTION

Approximately two weeks before completion of the Work, the contractor will schedule a Pre-final Inspection to be attended by the Bureau of Contract Administration Inspector, the Project Manager, the Contractor and invited parties associated with the Project. At this time, a list of items requiring correction or completion before the Final Inspection will be compiled. In addition, at this time the Contractor shall arrange for the delivery of manufacturers' data, manuals, and operating instructions and keys to the appropriate Department of Recreation and Parks personnel.

47. FINAL INSPECTION

Approximately seven (7) days prior to completion of the Work, the Contractor shall first notify the Bureau of Contract Administration Inspector and then the Project Manager that he desires a Final Inspection of the Project. During this inspection, which will be arranged as soon as possible, the Inspector, the Project Manager, the Contractor and other parties concerned with contractual requirements will compile a Final Inspection Correction List, incorporating all items of work and corrections required to complete the Project. This list must be completed

within thirty (30) days of Final Inspection, or a new Final Inspection will be held and a new Final Inspection Correction List compiled.

48. PARTIAL ACCEPTANCE

The CITY shall have the right to utilize or place into service any item of equipment or other usable portion of the Work prior to completion of the entire project. Whenever the CITY plans to exercise said right, the CONTRACTOR will be notified in writing by the CITY, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service. Following inspection by the Bureau of Contract Administration's Final Inspector and establishment of a Final Inspection Correction List, a Statement of Partial Completion will be issued.

It shall be understood by the CONTRACTOR that until a Statement of Partial Completion is issued, all responsibility for care and maintenance of all items or portions of the Work to be placed in use shall be borne by the CONTRACTOR. Upon issuance of a Statement of Partial Completion, the CITY will accept responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice, and it is further understood that the manufacturer's warranties of any affected equipment will commence not later than the date for commencement of the warranties indicated on the Statement of Partial Completion. However, the CONTRACTOR shall retain full responsibility for satisfactory operation of the total project and the CONTRACTOR'S guarantee period shall commence only after the final acceptance of the Contract by the RECREATION AND PARK COMMISSION. Such guarantee of total systems operation shall include that portion or portions previously placed into beneficial use by the CITY.

The issuance of a Statement of Partial Completion for any part of the Work shall not relieve the CONTRACTOR of its obligation to promptly remedy any omissions and latent or unnoticed defects in the Work covered by the Statement of Partial Completion. The CITY shall have the right to restrict the CONTRACTOR'S use of the occupied portion of the Work but shall allow the CONTRACTOR reasonable access to complete or correct items required by the Contract Documents.

The CITY may, if the Work is progressing satisfactorily, release part of the retention on portions of the Work for which a Statement of Partial Completion has been issued, provided that the following conditions have been met:

1. Partial final inspection corrections have been completed to the satisfaction of the INSPECTOR;
2. The CONTRACTOR submits a written request for release of retention which includes a verifiable valuation of the identified portions of the Work covered by the Statement of Partial Completion;
3. Impacted Subcontractors, major suppliers and the CONTRACTOR's Surety all agree in writing to release of retention;
4. If any minor corrections remain which do not directly affect operations or maintenance then twice the values of the remaining cleanup items shall be retained on each request for release; and
5. The CONTRACTOR signs a Change Order which specifically states the value of the retention being released.

The PROJECT MANAGER shall issue a no-change-in-contract-cost Change Order reflecting the Work for which a Statement of Partial Completion has been issued and the amount of the retention to be released. This Change Order shall authorize reduction of the retention on the next payment.

49. FINAL ACCEPTANCE

When all Work has been completed on the entire project, the CONTRACTOR shall notify the INSPECTOR and the PROJECT MANAGER in writing and request a final inspection by the INSPECTOR. The inspection conducted by the Final Inspector will include the CONTRACTOR and major Subcontractors' representatives. The CONTRACTOR shall promptly and diligently correct all items on the Final Inspection Correction List. The correction list Work will be reinspected until all Work is complete. If deemed necessary by the PROJECT MANAGER, a deductive Change Order may be issued for twice the value of final correction list items remaining to be corrected to attain completion, and permit the acceptance of the Contract by the RECREATION AND PARK COMMISSION.

Final payment to the CONTRACTOR is made following action by the RECREATION AND PARK COMMISSION that formally adopts the recommendation of the PROJECT MANAGER to accept the Contract. Said action by the RECREATION AND PARK COMMISSION establishes the following:

1. The start date of the CONTRACTOR'S material and workmanship warranty/guarantee for the total project.
2. The start date of any equipment or material warranties for which the "warranty clock" had not started.

50. LIQUIDATED DAMAGES

Time is of the essence in completing the Work required by the Contract. If the CONTRACTOR fails or refuses to complete the Work or any part thereof within the time fixed by the terms of the Contract, or any approved extension thereof, the actual damage to the CITY due to the delay will be difficult or impossible to determine. In lieu thereof, the CONTRACTOR shall pay to the CITY, as fixed and agreed, liquidated damages for each calendar day of delay in completion, the sum of $250.00 **per day**. The CONTRACTOR shall be liable for the amount thereof. The CITY reserves the right, however, to terminate the CONTRACTOR's completing the Work, charging against the CONTRACTOR and its sureties any excess cost occasioned the CITY thereby, together with liquidated damages accruing until such time as the CITY may reasonably complete the Work.

Permitting the CONTRACTOR to continue and complete the Work, or any portion thereof, after the time fixed herein for completion, or after the expiration of any extensions of said time, shall in no way operate as a waiver on the part of the CITY of any of its rights under the Contract.

51. COMPENSATION FOR DELAY, DISRUPTION, AND UNANTICIPATED OVERHEAD

Notwithstanding anything to the contrary in the Contract Documents, CONTRACTOR agrees the provisions of this Article, set forth CONTRACTOR'S sole and exclusive rights to compensation for costs, expenses or damages, of any kind, arising from or relating to (i) delay, disruption, hindrance, interference, schedule compression, and the impact, ripple or cumulative effect thereof; or (ii) additional supervision, administration, excess, extended or extraordinary overhead, loss of productivity, or similar costs, expenses or damages incurred as a result of or related to extras, changes, additions or deletions in the Work, errors, omissions, conflicts or ambiguities in the Contract Documents, suspensions of the Work, acts or omissions of CITY or its representatives, agents, contractors or consultants, Differing Site Conditions, or other unforeseen circumstances, of any kind.

CONTRACTOR shall not be entitled to, and hereby conclusively waives, any right to recovery of compensation, costs, expenses or damages for delays, disruptions, hindrances or interferences (including without limitation interruption of schedules, extended, excess or extraordinary field and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work) that are the result of Unavoidable Delays or which are caused by the acts or omissions of CONTRACTOR or of its SUBCONTRACTORS, of any tier.

CONTRACTOR'S rights to recovery of compensation, costs, expenses and damages for delay, disruption, hindrance and interference (including without limitation interruption of schedules, extended, excess and extraordinary field and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work) that are the result of extras, changes, additions or deletions in the Work for which CONTRACTOR is entitled to an adjustment of the Contract Price as set forth in CHANGES AND EXTRA WORK of these General Conditions and shall constitute the sole, exclusive and complete compensation that the CITY is obligated to pay CONTRACTOR for all such costs, expenses and damages incurred by CONTRACTOR and its SUBCONTRACTORS, of every tier.

Time extension in calendar days will be granted only if delays are caused by unforeseen events beyond the control of both the CONTRACTOR and the City. Such delays will entitle the CONTRACTOR to an extension of time as provided herein, but the CONTRACTOR shall not be entitled to damages or additional payment due to such delays. War, government regulations, labor disputes, strikes (when not brought solely against the CONTRACTOR, its subcontractors or material suppliers), fires, floods, adverse weather necessitating cessation of work, other similar action of the elements, inability to obtain materials, equipment or labor, required "extra work", or other specific reasons as may be further described in the specifications may constitute such a delay.

No extension of time will be granted for a delay caused by the inability to obtain materials unless the CONTRACTOR furnishes to the Project Manager documentary proof of the inability to obtain such materials in a timely manner in accordance with the sequence of the CONTRACTOR'S operations and the approved construction schedule.

The amount of time given to the CONTRACTOR is limited to the amount of time the Project is directly impacted by the above described delays. Direct impact means no other project work can proceed.

The CONTRACTOR may be compensated for delays caused solely by the failure of the City to furnish necessary rights-of-way, failure to deliver materials shown in the CONTRACTOR Documents to be furnished by the City, or for the suspension of the work by the City for its own convenience or benefit. If compensable delays could not have been avoided by the judicious handling of forces, equipment or plant, there shall be paid to the CONTRACTOR such amount as the General Manager may find to be fair and reasonable compensation for such part of the CONTRACTOR'S actual loss as was unavoidable.

If the CONTRACTOR desires payment for a delay as specified above or an extension of time, it shall, within thirty (30) days after the beginning of the delay, file with the General Manager a written request and report as to the cause and extent of the delay. The request of payment or extension must be made at least fifteen (15) days before the specified completion date, so as to allow for appropriate investigation. Failure by the CONTRACTOR to file these items within the times specified will be considered grounds for refusal by the City to consider such a request.

Any and all extensions of time granted under the Provisions of these Specifications shall not release the sureties on the bonds accompanying the Contract for the work required herein. The bonds shall remain in full force and effect until the discharge of the Contract.

CHANGES TO THE CONTRACT

52. CHANGES AND EXTRA WORK

The PROJECT MANAGER may, at any time, with or without notice to the Sureties, by written order designated or indicated to be a Change Order, order performance of extra work or make any change, addition or deletion in the Work, including but not limited to changes in the Specifications including Plans and Designs; in the time, method or manner of performance of the Work; in the CITY furnished facilities, equipment, materials, services, or site; or directing acceleration in the performance of the Work.

Upon receipt of such Change Order, the CONTRACTOR shall promptly proceed with the Work covered thereby, which shall be performed in accordance with the provisions of the Contract Documents except as otherwise specifically provided.

In the event that CONTRACTOR receives any written order or direction by the CITY, PROJECT MANAGER that is not so designated or indicated to be a Change Order, but which CONTRACTOR believes to constitute an extra, change, addition or deletion in the Work, then CONTRACTOR shall, prior to performance of any Work related thereto, give written confirmation notice to the PROJECT MANAGER confirming CONTRACTOR'S belief that such order or direction is believed to be a Change Order within one (1) working day of CONTRACTOR'S receipt of such order or direction.

CONTRACTOR conclusively waives any right to additional compensation, costs, expenses, damages or extension of time associated with an extra, change, addition or deletion to the Work that is performed by CONTRACTOR without either (i) a written order signed by the CITY, PROJECT MANAGER designated or indicated to be a Change Order and any change, addition or deletion, or (ii) a written confirmation notice issued by CONTRACTOR in accordance with the provisions of this Article.

Should a change be required and it is not feasible to delay construction of that portion of the Work until such time as a regular Change Order can be issued, and the estimated increase in Contract cost does not exceed the amount which can be authorized by the PROJECT MANAGER, an Emergency Change Authorization, in writing, will be issued in the field by the PROJECT MANAGER, and the CONTRACTOR shall then proceed with the Work without delay. Such Emergency Change Authorization shall be followed by a subsequent regular Change Order.

Except as provided in this Article, no order, Statement, or conduct of the PROJECT MANAGER shall be treated as a change under this Article or shall entitle the CONTRACTOR to an adjustment in the Contract Price or Contract Completion Date.

If any change under this Article causes an increase or decrease in the CONTRACTOR'S cost or the time required to perform any part of the Work under this Contract, whether or not said costs or time are specified by any order, the PROJECT MANAGER will make an adjustment to the Contract Price and modify the Contract in writing. Except for claims based on defective Specifications, no claim for any change under this Article shall be allowed for any costs incurred more than twenty (20) calendar days before the CONTRACTOR gives written notice as required. Except as otherwise provided in the Contract Documents, in the case of defective specifications for which the PROJECT MANAGER is responsible, the adjustment shall include any increased cost the CONTRACTOR reasonably incurred in attempting to comply with those defective specifications.

If the CONTRACTOR intends to assert a claim for an adjustment in the Contract Price under this Article, it must, within twenty (20) calendar days after receipt of a written Change Order or the furnishing of a written confirmation notice as hereinbefore specified, submit a written statement to the PROJECT MANAGER setting forth the general nature and monetary extent of such claim and all factual grounds therefor. The CONTRACTOR may include the statement of claim in the written notice as hereinbefore specified. Failure to comply with the twenty (20) calendar day notice requirement shall be deemed a waiver of claims by the CONTRACTOR.

No adjustment shall be made under this Article for any suspension, delay, interruption, change or any other cause, to the extent that an adjustment is provided for or excluded under any other provision of the Contract.

Recovery of compensation, costs, expenses or damages resulting from delay, disruption, hindrance, or interference in the performance of the Work (including without limitation interruption of schedules, extended, excess or extraordinary field overhead and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work), shall not be permitted, and all rights thereto are conclusively waived by CONTRACTOR, except to the extent allowed by COMPENSATION FOR DELAY, DISRUPTION AND UNANTICIPATE OVERHEAD of these General Conditions.

No claim by the CONTRACTOR shall be allowed if the claim is made after final payment under this Contract.

53. DIFFERING SITE CONDITIONS

The following provisions shall apply only in the event that there is not a Geotechnical Baseline Report for the Project. If a Geotechnical Baseline Report is so identified, then the provisions of this Article shall not apply and the CONTRACTOR'S rights arising from Differing Site Conditions shall be governed solely by the provisions of the General Requirements pertaining to the CONTRACTOR'S rights in the event of Differing Site Conditions.

Upon discovery and before further disturbance of any unforeseen conditions, the CONTRACTOR shall immediately notify the INSPECTOR and the PROJECT MANAGER, followed by a written notice to the PROJECT MANAGER within twenty-four (24) hours of subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents; or unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work of the character provided for in this Contract; or materially differing from that represented in the Contract Documents which the CONTRACTOR believes may be hazardous waste, as defined in the California Health and Safety Code, that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law.

The PROJECT MANAGER shall promptly investigate the conditions. If the PROJECT MANAGER finds that conditions materially differ and will cause an increase or decrease in the CONTRACTOR'S cost or the time required to perform any part of the Work under this contract, whether or not changed as a result of such conditions, the PROJECT MANAGER shall, make an adjustment in the Contract Price by Modification to the Contract in writing.

If the CONTRACTOR intends to seek an adjustment to the Contract Price or Contract Completion Date based upon this Article, it must, within twenty (20) calendar days after it first discovered or should have discovered in the exercise diligence and extreme care the existence of Differing Site Conditions, submit a written statement setting forth a detailed cost breakdown in the form required by Article 27, PAYMENT FOR CHANGES AND EXTRA

WORK of the General Requirements, setting forth the basis of CONTRACTOR'S calculation of the costs saved or, detailed information demonstrating the effect on the CONTRACTOR'S schedule of performance in the same manner as required by the Contract Documents for obtaining approval of extensions of time, identification of the Escrow Bid Documents that formed the basis of the CONTRACTOR'S bid estimate to perform the Work affected by such conditions, and a complete and detailed explanation of the factual basis for the request.

Failure by CONTRACTOR to strictly comply with the requirements of this Article concerning the timing and content of any notice of Differing Site Conditions or of any request for adjustment in Contract Price or Contract Completion Date based on Differing Site Conditions shall be deemed waiver of any claim by the CONTRACTOR for increase in the Contract Price or extension of the Contract Completion Date by reason of such conditions.

CONTRACTOR'S right to compensation for (i) delay, disruption, hindrance, interference, schedule compression, and the impact, ripple or cumulative effect thereof; or (ii) additional supervision, administration, excess, extended or extraordinary overhead, loss of productivity, or similar costs, expenses or damages incurred as a result of or related to any Claim based on Differing Site Conditions shall be limited to such sums as are allowable under COMPENSATION FOR DELAY, DISRUPTION, AND UNANTICIPATED OVERHEAD of these General Conditions.

No claim by the CONTRACTOR for an adjustment hereunder be allowed if asserted after final payment under this Contract.

LEGAL REQUIREMENTS

54. CLAIMS AND PROTESTS

A Claim or Protest that involves an extra, change, addition or deletion to the Work as set forth in CHANGES AND EXTRA WORK of these General Conditions shall arise upon issuance of a final decision of the PROJECT MANAGER denying, in whole or in part, a request for adjustment in the Contract Price or Contract Completion Date; provided however, that failure to comply with the requirements of CHANGES AND EXTRA WORK of these General Conditions shall be conclusively deemed to constitute grounds to deny such Claim or Protest.

A Claim or Protest that does not involve an extra, change, addition or deletion to the may be asserted only if the CONTRACTOR shall immediately and prior to performing the Work affected thereby give written notice to the PROJECT MANAGER of such circumstances and of CONTRACTOR'S intention to file a Claim or Protest based thereon. Unless otherwise directed by the PROJECT MANAGER the CONTRACTOR shall proceed without delay to perform the Work and to conform to any order, instruction, or decision of the PROJECT MANAGER with respect thereto.

The CONTRACTOR shall, within twenty (20) calendar days after it first knew, or in the exercise of diligence and extreme care should have known, of the circumstances giving rise to the Claim or Protest, file a written Claim or Protest with the PROJECT MANAGER, stating in detail all objections, grounds and reasons therefore. The CONTRACTOR shall, upon instruction by the PROJECT MANAGER provide, within ten (10) days or such other time as agreed to between the PROJECT MANAGER, the INSPECTOR, and the CONTRACTOR, any and all documents, records or other materials identified by the PROJECT MANAGER as necessary for the resolution of the CONTRACTOR's Claim or Protest.

Claims or Protests seeking time extensions shall be accompanied by such documentation as is required by Article 18, CONTRACTOR'S CONSTRUCTION SCHEDULE AND REPORTS of the General Requirements. Claims or Protests seeking recovery of compensation or adjustments to the CONTRACT PRICE, whether or not based on extras, changes, additions or deletions to the Work, shall be in the form of Change Order Cost Quotations prepared in accordance with and subject to all of the requirements of Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements, including without limitation the prohibition on use of total cost and modified total cost methodologies.

CONTRACTOR waives all rights to assert any claims or seek any relief in the form of extensions of time or recovery of additional compensation, costs, expenses, damages from the CITY that are not presented as a Claim or Protest in the manner specified and within the time stated herein. CONTRACTOR further hereby agrees that in the interest of avoiding the additional expense and potential inequity of piecemeal resolution of Claims or Protests, all decisions by PROJECT MANAGER shall be final and binding not only as to all matters asserted in the Claim or

Protest, but also as to all matters (including without limitation all rights to extensions of time and recovery of extra compensation, costs, expenses and damages) not asserted in the Claim or Protest that were known to CONTRACTOR, or that could have been reasonably discovered by CONTRACTOR in the exercise of diligence and extreme care, at the time of submission of the Claim or Protest and that are in any way related to the subject matter of the Claim or Protest. All orders, instructions and decisions of the PROJECT MANAGER will be limited to matters properly falling within their respective authority as specified in AUTHORITY OF THE RECREATION AND PARK COMMISSION, PROJECT MANAGER AND INSPECTOR of these General Conditions.

The CONTRACTOR will be informed of the PROJECT MANAGER's decision within thirty (30) days after the CONTRACTOR last submits data pertinent to the protest previously mentioned. In the case of a Claim or Protest that involves an extra, change, addition or deletion to the Work as set forth in CHANGES AND EXTRA WORK of these General Conditions, if the Contractor accepts the decision of the PROJECT MANAGER, then the CONTRACTOR and CITY shall enter into a Change Order adjusting the Contract Price and Contract Completion Date in accordance with such decision. In the case of a Claim or Protest does not involve an extra, change, addition or deletion to the Work as set forth in CHANGES AND EXTRA WORK of these General Conditions and the CONTRACTOR accepts the decision of the PROJECT MANAGER, then the CONTRACTOR and CITY shall enter into a Modification of the Contract setting forth the terms of the decision and, if appropriate, its effect on the Contract Price or Contract Completion Date. If the CONTRACTOR does not accept the decision of the PROJECT MANAGER, then further appeal of the PROJECT MANAGER's or the decision must be made to the RECREATION AND PARK COMMISSION in writing within twenty (20) calendar days after receipt of the PROJECT MANAGER's decision. The RECREATION AND PARK COMMISSION shall afford the CONTRACTOR an opportunity to be heard and to offer evidence in support of its appeal. All determinations of the RECREATION AND PARK COMMISSION with respect to Claims or Protests shall be final and binding.

In all matters concerning the validity, interpretation, performance, effect or otherwise of the Contract, the Federal regulations (if and to the extent expressly incorporated by reference in the Contract Documents), the laws of the State of California, and the Charter of the City of Los Angeles shall govern and be applicable. Pending final disposition of a protest, the CONTRACTOR shall proceed diligently with the performance of the Contract and in accordance with the previously mentioned decision.

Any Claim or Protest, including without limitation any Claim or Protest filed on behalf of or having its source in a claim by Subcontractor, Sub-Subcontractor, or Supplier, at any tier, which the CONTRACTOR chooses to make to the CITY, shall be accompanied by the certification language set forth below signed by a responsible managing officer of the CONTRACTOR'S organization, who has the authority to sign Subcontracts or Purchase Orders on behalf of the CONTRACTOR, and who has personally investigated and confirmed the truth and accuracy of the matters set forth in such certification. Submission of certification in accordance herewith is a condition precedent to the CITY's consideration of or decision on the Claim or Protest and to the filing and maintenance of any legal action or proceeding to enforce or recover monies under such Claim or Protest. Failure to submit such a certification along with the Claim or Protest, shall result in the Claim or Protest being returned to the CONTRACTOR without any decision and shall waive the CONTRACTOR's right to pursue the Claim or Protest either on its own behalf or on behalf of such Subcontractor or Supplier.

I hereby certify under penalty of perjury that I am a managing officer of (CONTRACTOR'S name) and that I have reviewed this Claim or Protest presented herewith on CONTRACTOR'S behalf and/or on behalf of (Subcontractor's/Supplier's name(s)) and that the following statements are true and correct:

1. The facts alleged in or that form the basis for the Claim or Protest are true and accurate; and,
2. CONTRACTOR does not know of any facts or circumstances, not alleged in the Claim or Protest, that by reason of their not being alleged render any fact or statement alleged in the Claim or Protest materially misleading; and,
3. CONTRACTOR has, with respect to any request for money or damages alleged in or that forms the basis for the Claim or Protest, reviewed the job cost records (including those maintained by CONTRACTOR and by any Subcontractor or Supplier, of any tier, that is asserting all or any portion of the Claim or Protest) and confirmed with mathematical certainty

that the losses or damages suffered by CONTRACTOR and /or such Subcontractor or Supplier were in fact suffered in the amounts and for the reasons alleged in the Claim or Protest; and,

4. CONTRACTOR has, with respect to any request for extension of time or claim of delay, disruption, hindrance or interference alleged in or that forms the basis for the Claim or Protest, reviewed the job schedules (including those maintained by CONTRACTOR and by any Subcontractor or Supplier, of any tier, that is asserting all or any portion of the Claim or Protest) and confirmed on an event-by-event basis that the delays or disruption suffered by CONTRACTOR and /or such Subcontractor or Supplier were in fact experienced for the durations, in the manner, and with the consequent effects on the time and/or sequence of performance of the Work, as alleged in the Claim or Protest; and,

5. CONTRACTOR has not received payment from CITY for, nor has CONTRACTOR previously released CITY from, any portion of the Claim or Protest.

Signature: _____

Name: _____

Title: _____

Company: _____

Date: _____

No Claim or Protest by the CONTRACTOR shall be allowed if made after final payment under this Contract.

55. COMMENCEMENT OF STATUTE OF LIMITATIONS

Unless otherwise provided in this Contract, all claims, counterclaims, disputes and other matters in question between the CITY and the CONTRACTOR arising out of or relating to this Contract or the breach of it will be decided by a Court of competent jurisdiction. It is understood that this Contract is executed and to be performed within the City and County of Los Angeles.

Any applicable statute of limitations shall commence to run and any alleged cause of action by the CONTRACTOR against the CITY arising out of or related to the Project shall be deemed to have accrued in any and all events no later than 30 days after CONTRACTOR'S submittal of its last application for progress payment.

56. GOVERNING LAW

The terms and conditions of this Contract shall be construed and interpreted under, and all respective rights and duties shall be governed by, the laws of the State of California. Wherever applicable each provision of these Contract Documents shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of these Contract Documents shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of these Contract Documents.

57. VENUE

This Contract will be executed and performed within the City and County of Los Angeles, California.

58. NO WAIVER OF RIGHTS

Neither the inspection by the CITY, nor any order by the CITY for payment of money, nor any payment for or acceptance of the whole or any part of the Work by the CITY, nor any extension of time, nor any possession taken by the CITY, shall operate as a waiver of any provision of this Contract, or any power herein reserved to the CITY,

or any right to damages herein provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

59. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the CONTRACTOR of final payment shall release the CITY, the PROJECT MANAGER, the INSPECTOR, their officers, agents, representatives, or employees, as representatives of the CITY, from all claims and all liability to the CONTRACTOR for all things done or furnished in connection with the Work and every act of the CITY relating to or arising out of the Work.

60. PATENTS AND COPYRIGHTS

The CONTRACTOR shall include in its bid the patent fees or royalties on any patented article or process which may be furnished or used in the Work. The CONTRACTOR shall indemnify and hold the CITY harmless from any legal action that may be brought for infringement of patents. The CONTRACTOR'S attention is directed to "Notice of Patents, Data, and Copyright Regulations" of the Federal Labor Standards.

The CONTRACTOR shall bear all costs arising from the use of patented goods and /or processes used on and/or incorporated into the Work. When use of these goods and/or processes are judged to be an infringement and their use is banned, the Contractor, at its own expense, shall, with concurrence of the PROJECT MANAGER, do one of the following:

1. Secure for the CITY the right to continue using goods and/or processes by suspension of the injunction or by procuring a license(s);
2. replace said goods and/or processes with non-infringing goods and /or processes;
3. modify said goods and/or processes so that they become non-infringing; or
4. remove said goods and/or processes and refund the sum paid therefore without prejudice to any other rights of the CITY.

The preceding Subarticle shall not apply to any goods manufactured to the detailed design of the CITY contained in the Contract Documents.

61. PUBLIC RECORDS ACT

All records, documents, plans, specifications and all other information relating to the conduct of the CITY's business, including information submitted by the CONTRACTOR, shall become the exclusive property of the CITY and except as provided by law shall be deemed public records. Said information shall be subject to the provisions of the California Public Records Act (Government Code Sections 6250 *et seq.*).

Under no circumstances, will the CITY be responsible or liable to the CONTRACTOR, submitter or any other party for the disclosure of any records or information submitted to the CITY, regardless of whether such records or information are labeled "TRADE SECRET", "CONFIDENTIAL", or "PROPRIETARY" (or words to similar effect) and regardless of, whether the disclosure is required by law or a court order or occurs through inadvertence, mistake, or negligence on the part of the CITY or its officers, employees, and/or contractors.

The CITY will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act", including interpretations of the Act or the definition of "Trade Secret". The submitting party shall be solely responsible for all determinations made under the Act, and where appropriate for clearly and prominently marking each and every page or sheet of information with "TRADE SECRET", "CONFIDENTIAL", or "PROPRIETARY". Each submitting party is advised to contact its own legal counsel concerning the California Public Records Act and its applicability to the submitting party's own circumstances.

In the event of litigation concerning the disclosure of any information submitted by the submitting party, the CITY's sole involvement will be as a stake holder, retaining the information until otherwise ordered by a court. The submitting party, at its sole expense and risk, shall be responsible for any and all fees and costs for prosecuting or defending any action concerning the information, and shall indemnify and hold the CITY harmless from all costs and expenses including attorneys' fees, in connection with such action.

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

II. GENERAL REQUIREMENTS

Department of
Recreation and Parks

GENERAL REQUIREMENTS

FOR

CONSTRUCTION

OF

CESAR CHAVEZ RECREATION COMPLEX PHASE III C ALSO KNOWN AS: SHELDON ARLETA PARK PHASE III C E170163A

12455 Wicks Street, Sun Valley, CA 91352

September 2021

ENGINEERING
CITY OF LOS ANGELES

Revision Date: 09/01/2021

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GENERAL

1. ABBREVIATIONS AND REFERENCE STANDARDS

A. ABBREVIATIONS

Wherever the following abbreviations are used they shall have the meanings indicated:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGMA	American Gear Manufacturers' Association
AI	The Asphalt Institute
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
CBM	Certified Ballast Manufacturers
CRS	Concrete Reinforcement and Steel Institute
EPA	Environmental Protection Agency
ETL	Department of Building & Safety Electrical Test Laboratory
FCI	Fluid Control Institute, Inc.
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
LABC	City of Los Angeles Building Code
NAAMM	National Architectural Association of Metal Manufacturers
NEC	National Electrical Code

NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NOAA	National Oceanic and Atmospheric Administration (Dept. of Commerce)
OSHA	Occupational Safety and Health Administration (Dept. of Labor)
PCA	Portland Cement Association
RCSC	Research Council on Structural Connections of the Engineering Foundation
SAMA	Scientific Apparatus Manufacturer's Association
SSPWC	Standard Specifications for Public Works Construction
SWRCB	State Water Resources Control Board
UBC	Uniform Building Code, International Conference of Building Officials
UL	Underwriters Laboratories, Inc.
USGS	United States Geological Survey
WATCH	Work Area Traffic Control Handbook
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

B. REFERENCE STANDARDS

1. APPLICABLE PUBLICATIONS - Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

2. SPECIALISTS' ASSIGNMENTS - In certain instances, specification text requires (or implies) that specific Work is to be assigned to specialists or expert entities, which must be engaged for the performance of that Work. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the Work; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of Work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of Contract requirements remains with the CONTRACTOR.

3. CODES AND SAFETY STANDARDS - Without limiting the generality of other requirements of the Specifications, Work specified herein shall conform to or exceed the applicable requirements of the following Codes and Safety Standards.

   a. Applicable Codes:

      - City of Los Angeles Building Code
      - City of Los Angeles Mechanical Code
      - City of Los Angeles Plumbing Code
      - City of Los Angeles Fire Code
      - City of Los Angeles Electrical Code

   b. References herein to "Building Code" shall mean City of Los Angeles Building Code. Similarly references to "Mechanical Code," "Plumbing Code," "Fire Code," and "Electric Code" shall mean City of Los Angeles Mechanical Code, City of Los Angeles Plumbing Code, City of Los Angeles Fire Code and City of Los Angeles Electric Code respectively.

   c. Applicable Safety Standards:

      - OSHA Regulations for Construction
      - OSHA Standards
      - Cal-OSHA

   d. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

   e. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes

and amendments thereto.

f. References herein to "Cal-OSHA" shall mean State of California, Department of Industrial Relations, as amended to date, and all changes and amendments thereto which are effective as of the date of construction.

g. The latest edition of the codes as approved and adopted for use by the CITY as of the date of award shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto.

4. STANDARD SPECIFICATIONS - References in the Contract Documents to "Standard Specifications" shall mean the Standard Specifications for Public Works Construction (SSPWC), including all current supplements, addenda, and revisions thereof, except that the provisions therein for measurement and payment shall not apply.

5. STANDARD PLANS - References herein to "Standard Plans" shall mean the Standard Plans issued by the City of Los Angeles which drawings are hereby incorporated in and made a part of these Contract Documents, and copies of which are available for a fee.

6. CONFLICT BETWEEN CODES, SAFETY STANDARDS, REFERENCE STANDARDS, DRAWINGS AND OTHER CONTRACT DOCUMENTS - In case of conflict between codes, reference standards, drawings and other Contract Documents, the most stringent requirements shall govern. Conflicts shall be brought to the attention of the PROJECT MANAGER for clarification and directions prior to ordering or providing any materials or labor. The CONTRACTOR shall bid for the most stringent requirements.

CONTRACT DOCUMENTS

2. ISSUANCE OF PLANS AND SPECIFICATIONS

A. Unless otherwise provided in the Contract Documents, the PROJECT MANAGER will furnish to the CONTRACTOR TEN (10) sets each of the Plans, Specifications and, Geotechnical Report without charge. Additional sets desired by the CONTRACTOR or Subcontractors will be furnished upon request, but at the CONTRACTOR's expense.

B. Drawings, Specifications, Special Provisions, and copies thereof are the property of the CITY. They are not to be used on other work. Necessary bid documents will be available to prospective bidders. Bidders will be issued plans and specifications for a fee. This fee is stated in the "Notice Inviting Bids" of the Contract Documents.

C. Standard Plans for the CITY, which are noted on the drawings, are available for a fee. Also see the City of Los Angeles, Bureau of Engineering Web pages for Standard Plans at http://eng.lacity.org/techdocs/stdplans.

3. DIVISIONS OF SPECIFICATIONS

The specifications are arranged into the Construction Specifications Institute (CSI) sixteen (16) Division format with an additional Division 17 for Instrumentation and Controls (if applicable).

A. The organization of the Specifications into divisions, sections, parts, and paragraphs shall not control or limit the CONTRACTOR in dividing the Work among Subcontractors of any tier. The CONTRACTOR shall be solely responsible for all subcontract arrangements of Work regardless of the organization of the specifications.

B. Titles of Specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.

THE CONTRACTOR'S RESPONSIBILITIES

4. SITE SECURITY

A. In addition to the responsibilities specified in other Articles of these Requirements, and the General Conditions, the CONTRACTOR shall be responsible for the security of all its construction equipment, materials, tools, facilities, and vehicles (personal, private, or contractual) while performing the Work of this Contract. This requirement shall be effective twenty-four (24) hours per day for the duration of the Contract. CONTRACTOR shall familiarize themselves with the location of the job site and scan the premises by means necessary to protect the property, including but not limited to, provision of fencing, guards, security system or other means as necessary.

5. ENVIRONMENTAL CONTROL AND MITIGATION

A. CONTROL

1. Fugitive Dust and Smoke Control:

Comply with the requirements of Title 8, California Code of Regulations, concerning handling of asbestos dust.

a. Criteria for Fugitive Dust - Detailed descriptions and explanations of specific impact mitigation measures are contained in South Coast Air Quality Management District (SCAQMD) Rules and Regulations (Rule 403, Limitation on Fugitive Dust Emissions). Key features of mitigation options described are as follows:

i. Do not cause or allow emissions of fugitive dust from any transport, handling, construction or storage activity to remain visible in atmosphere beyond property line of the emission source.

ii. Take precautions to minimize fugitive dust emissions from operations involving demolition, excavation, grading, clearing of land and disposal of solid waste. Utilizes at least one Reasonably Available Control Measure (RACM) for each potential source of fugitive dust. Do not cause or allow particulate matter to exceed 50 mg/m^3 when determined as difference between upwind and downwind samples collected on high volume particulate matter samplers or other EPA approved equivalent method for PM-10 monitoring at the property line for a five hour period during the time of active operations.

iii. Take precautions to prevent visible particulate matter from being deposited upon public roadways as a direct result of their operations. Precautions include, removal of particulate matter from equipment before movement to paved streets or prompt removal of material from paved streets onto which such material has been deposited.

b. As a minimum - Use the following procedures and techniques:

i. Cover loads of materials, debris and soil transported from construction sites. Trim or remove loose material from loads before leaving Project.

ii. Daily or more frequently, if necessary, water down and sweep adjacent streets and sidewalks that have construction vehicles carrying debris and excavated materials.

iii. Establish regular cycles and locations for cleaning trucks that haul soil from site.

iv. Water down construction sites whenever required to suppress dust, particularly during handling of excavation soil or debris or during demolition.

v. If conveyors are used, cover all transfer points along conveyor system moving soil. Minimize drop height to the stockpile. Provide a sprinkler system that will apply water to soil before it drops to stockpile.

vi. Any adapted measures developed by SCAQMD on Best Available Control Measures (BACM) for Fugitive Dust and Rule 403 will be incorporated into the site operations for Fugitive Dust Control.

vii. Burning of wastes is prohibited. Remove scrap and waste material and dispose of in accordance with laws, codes, regulations, ordinances and permits.

viii. Use construction equipment designed and equipped to prevent or control air pollution in conformance with most restrictive regulations of EPA, State and local authorities. Maintain evidence of such design and equipment and make available for inspection by Authority or its designee.

ix. Establish and maintain records of routine maintenance program for internal combustion engine powered vehicles and equipment used on Project. Keep records available for inspection by Authority or its designee.

x. Comply with the requirements of Title 8, California Code of Regulations, concerning handling of asbestos dust.

xi. Implement Fugitive Dust Measures listed in tables 1 and 2 of SCAQMD Rule 403 and perform record keeping in accordance with Sections (e)(1) of said rule. Make records available to Authority or its designee for inspection.

2. Rubbish Control

a. Through all phases of construction, including suspension of Work and until final acceptance of the Project, keep the site of the Work and other areas used by it in a neat and clean condition, and free from an accumulation of rubbish and debris. Dispose of rubbish and waste materials of any nature occurring at the worksite and establish regular intervals of collection and disposal of such materials and waste. Keep CONTRACTOR haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Take care to prevent spillage on haul routes. Remove such spillage immediately and clean the area. Confine equipment and material storage to areas approved by the PROJECT MANAGER. Dispose of rubbish and surplus materials off the construction site, at the CONTRACTOR's expense, in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and the requirements of the OSHA Safety and Health Standards for Construction. Include cleanup cost in the CONTRACTOR's Bid.

3. Sanitation

a. Fixed or portable chemical toilets shall be provided for the use of the CONTRACTOR's employees. These accommodations shall be maintained in a neat and sanitary condition. Toilets at construction job sites shall conform to the requirements of Title 8, California Code of Regulations.

b. Wastewater conveyance and disposal shall not be interrupted. Should the CONTRACTOR disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill. Establish a regular schedule for collection of sanitary and organic waste. Dispose of wastes and refuse from sanitary facilities provided by the CONTRACTOR or

organic material wastes from any other source related to the CONTRACTOR's operations away from the site in a manner satisfactory to the INSPECTOR and in accordance with laws and regulations pertaining thereto. Dispose of such wastes at the CONTRACTOR's expense.

4. Chemicals

The following paragraph does not relieve the CONTRACTOR from its responsibility for obtaining prior approval from the PROJECT MANAGER for chemical usage when otherwise required.

a. Provide four (4) copies of the MSDS to the PROJECT MANAGER for all chemicals used during Project construction or furnished for Project operation, prior to bringing them on site, whether soil conditioning agents, lubricants, defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, soil conditioning agents, lubricants, reactant, or of other classification, which shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

5. Odor Control

a. The CONTRACTOR shall furnish all labor, materials, and equipment required and shall carry out effective measures wherever and as often as necessary to prevent the discharge of a nuisance odor from its operation into the atmosphere in such quantity as will violate the regulations of any legally constituted authority. During construction, the CONTRACTOR shall notify the PROJECT MANAGER and the INSPECTOR at least forty-eight (48) hours in advance when potential odor-causing activities are scheduled for construction.

6. Noise and Vibration - Comply with requirements of CITY noise ordinances and mitigation specified below.

a. Lighting – Shield worksite lighting to prevent disturbance to adjacent properties.

B. MITIGATION

1. General

a. The CONTRACTOR shall mitigate the adverse environmental impacts associated with the Work of the Contract. The CONTRACTOR shall indemnify and hold harmless the CITY from any and all fines, penalties or damages incurred by the CITY for violation of any environmental mitigation measures or permit caused by the CONTRACTOR's failure to comply with environmental mitigation measures of this Article. The measures that the CONTRACTOR shall take to mitigate environmental impacts include, but are not limited to the following:

b. The CONTRACTOR, a minimum of thirty (30) days prior to beginning Work on each new major activity, shall submit a written plan to the PROJECT MANAGER, detailing how the environmental impacts for the activity shall be mitigated. The plan shall include, at a minimum:

i. Anticipated site conditions;

ii. Equipment to be utilized;

iii. Means and methods of construction;

iv. Impacts likely to occur;

v. Mitigation methods to be employed.

2. Storm Water Pollution Control

   a. Comply with the State General Construction Activity Storm Water Permit.

   b. Minimum Water Quality Protection Requirements – The Contractor is required to meet the following minimum standards of good housekeeping:

      i. Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheet flow, swales, area drains, natural drainage, or wind.

      ii. Stockpiles of earth and other construction-related materials must be protected from being transported from the site by wind or water.

      iii. Fuels, oils, solvents, and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.

      iv. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete wastes on-site until they can be appropriately disposed of or recycled.

      v. Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.

      vi. Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must e stabilized so as to inhibit sediments from being deposited into the public ways. Accidental depositions must be swept immediately and my not be washed down by rain or by any other means.

   c. Wet Weather Erosion Control Plan (WWECP) – Pursuant to Section 61.02 of the LAMC, whenever it appears that the construction site will have grading between October 1 and April 15, the Contractor shall submit a WWECP to the Project Manager for approval within 30 days after award of contract or get approval 30 days prior to the beginning of the rainy season, whichever is longer. Note: Guidance on preparing the WWECP can be found in the Development Best Management Practices Handbook – Part A, Construction Activities adopted by the Board of Public Works on August 2, 1999, as authorized by Section 64.72 of the Los Angeles Municipal Code. This handbook can be obtained at cost at the public/permit counters of the Bureau of Engineering.

   d. The Contractor shall file a “Notice of Intent” (NOI) with the State Water Resources Control Board to comply with the California General Construction Activity Stormwater Permit (NPDES No. CAS000002) and prepare and implement a Stormwater Pollution Prevention Plan (SWPP). Whenever the CONTRACTOR is required to get any type of permit from the Department of Building and Safety (DBAS), the CONTRACTOR shall show a Waste Discharge Identification Number (WDID) to the DBAS as proof of submittal of the NOI. If the CONTRACTOR does not need any type of permit from the DBAS, the CONTRACTOR shall show the WDID to the PROJECT MANAGER.

3. Noise and Vibration

   a. General

i. The Work specified in this Article consists of eliminating excessive noise and vibration generated by construction activities, complying with applicable noise regulations and specifications requirements, monitoring and reporting noise and vibration measurements.

ii. Use equipment with effective noise-suppression devices and employ other noise control measures such as enclosures and noise barriers necessary to meet the noise limits specified and to protect the public. Schedule and conduct operations in a manor that will minimize, to the greatest extent feasible, the disturbance to the public in areas adjacent to the construction activities and to occupants of buildings in the vicinity of the construction activities.

iii. Noncompliance Corrective Action – If, at any time prior to or during the construction, complaints are received from the public, the PROJECT MANAGER shall direct the CONTRACTOR to undertake immediate corrective action through equipment modification, additional noise abatement equipment or a change in operating procedures.

b. Construction Vibration

i. Ground-borne vibrations from equipment may have the potential of causing an impact to the existing structure. The CONTRACTOR shall mitigate and/or repair any damage caused by vibration.

6. MOBILIZATION

A. GENERAL

Mobilization shall include, but not be limited to, the following items, all as required for the proper performance and completion of the work:

1. Obtaining all permits, insurance, and bonds.
2. Moving onto the job-site all CONTRACTOR's plant and equipment as required.
3. Erecting temporary buildings and other construction facilities.
4. Installing temporary construction power and wiring.
5. Establishing fire protection system for its temporary facilities.
6. Developing construction water supply.
7. Providing field office trailers for the CONTRACTOR AND INSPECTOR, complete with all specified furnishings and utility services, including telephones.
8. Providing connections to onsite sanitary facilities as specified.
9. Providing for potable water facilities as specified. This includes a means by which all on site contractor, subcontractor or supplier personnel can wash their hands with soap.
10. Arranging for and erection of CONTRACTOR's work and storage yards and sheds.
11. Submittal of all required Subcontractor insurance certificates and bonds.
12. Posting all CAL-OSHA required notices and establishment of safety programs.
13. Have the CONTRACTOR's representative at the job site full time.
14. Furnishing of Construction Schedule, Bid Breakdown and Submittal Schedules.

B. TEMPORARY CONSTRUCTION UTILITIES AND WORKSITE FACILITIES

The Contractor shall provide the following worksite facilities, as indicated below:

Yes (1) The Contractor shall provide adequate sanitary conveniences for use of persons employed on the work. These conveniences shall be properly secluded from public observation and maintained in a neat and sanitary condition in the manner and places required by the Project Manager. The use of these conveniences shall be strictly enforced, and they shall be maintained at all times until completion of the work, when they shall be removed from the premised and the area left clean and free from any nuisance. They shall also comply with all applicable laws, ordinances and regulations pertaining to the public health and sanitation of dwelling and camps.

Wastewater shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

Yes (2) The Contractor shall provide the power and light needed for construction until permanent meter installation is completed. The Contractor shall make all necessary arrangements with the City Department of Water and Power; assume all costs; and make and remove all connections to power facilities as necessary for required tests.

Yes (3) The Contractor shall provide the water needed for construction until permanent meter installation is completed. The Contractor shall make all necessary arrangements with the City Department of Water and Power; assume all costs; and make and remove all connections to water facilities as necessary for required tests.

No (4) The Contractor shall provide the gas needed for construction until permanent meter installation is completed. The Contractor shall make all necessary arrangements with the Gas Company; assume all costs; and make and remove all connections to gas facilities as necessary for required tests.

No (5) The Contractor shall provide a temporary shed on the site for the safe storage of his material and equipment. The floor shall be weathertight with a wood floor above grade. The shed shall be removed upon completion of the work or by order of the General Manager.

No (6) The Contractor shall provide an office for the Inspector for the entire period of construction or until the General Manager orders its removal. The office, to be located as the General Manager directs, shall be weathertight and have not less than 100 square feet floor area; screened windows that open in opposite walls; a door with latch set and hasp for padlocking; a built in counter of sufficient size for a full set of job blue prints with a drawer for filing 9" x 12" folders; a stool and a plan rack for drawings; an electric heater, a 12" electric fan and electric lights.

No (7) The Contractor shall provide a job telephone for the use of City personnel only. The Contractor shall make all necessary arrangements with the telephone company; assume all costs and pay for all calls. The telephone is to be located so that it is easily accessible from the job office and provided with an outside extension bell.

Yes (8) The Contractor shall maintain temporary drainage to keep excavations, pits and trenches free of water accumulation, by pumping if necessary. The Contractor shall protect against damage caused by water backing up in sewers and drains.

Yes (9) The Contractor shall exercise every reasonable precautions to protect channels, storm drains and bodies of water from pollution; and shall conduct and schedule construction operations so as to minimize or avoid muddying and silting of said channels, drains and waters. Water pollution control work shall consist of constructing any facilities which may be required to prevent, control and abate water pollution.

The Project Manager, authorized representative of the General Manager, in charge of this project is:

Gunwoo Choi at Work (213) 485-4736

All correspondence should be addressed to the Project Manager at:

Department of Public Works, Bureau of Engineering

7. REMOVAL, CLEANUP, AND DEMOBILIZATION

A. Upon completion of the contracted Work, remove all CONTRACTOR tools, materials and other articles from the CITY's property. Should the CONTRACTOR fail to take prompt action to this end, the CITY at its option and without waiver of such other rights as it may have, on thirty (30) calendar days notice, may treat them as abandoned property. Sweep floors broom clean, clean exterior and interior surfaces and windows and remove rubbish and debris resulting from the contracted Work and maintain the job site in a clean, orderly and safe condition at all times until completion of the physical Work and written Notice of Partial Acceptance. Failure to comply with this requirement shall be grounds for the CITY to assess clean-up costs in the amount of 5% of the mobilization cost.

8. RECORD DRAWINGS

A. Record Drawings are full size drawings (Plans) which are marked up during construction to delineate the actual in-place constructed conditions. Record Drawings shall be provided by the CONTRACTOR for this Project. Requirements for Record Drawings as specified elsewhere shall supplement the requirements specified herein.

B. Record Drawings shall include all changes in the plans including those issued as Change Orders, Plan Clarifications, Addenda, Notice to Bidders, responses to Requests for Information, Jobsite Memos, and any additional details needed for the construction of the Project but not shown on the plans. Substructures encountered while excavating that are left in place shall be located by survey, to the satisfaction of the PROJECT MANAGER, shown, and identified on the Record Drawings. Substructures, including but not limited to concrete structures, electrical conduit and duct banks, drains and sanitary sewer pipelines, process piping, water lines, etc, whose installed location differs from that shown on the original plans shall be precisely located by survey to the satisfaction of the PROJECT MANAGER and recorded on the as-built drawings before backfilling.

C. Mark Record Drawings with red ink or chemical fluid on one (1) set of full size prints to produce a record of the complete installation. Prepare additional drawings that may be required to indicate record conditions on 24" x 36" paper. Additions to Contract Drawings shall employ and use drafting standards, which are consistent with the drafting standards, used in the Contract Drawings.

D. Keep Record Drawings on the job and update during construction and make available for the PROJECT MANAGER'S inspection and copying at all times. The PROJECT MANAGER will review the Record Drawings before submittal of monthly payment requests. If in the opinion of the PROJECT MANAGER, the Record Drawings are not current, approval of the monthly payment may be withheld until the drawings are made current. Submit a signed certification with each monthly payment request stating that the Record Drawings are current and accurate as of the date of the payment request.

E. Where the plans are diagrammatic or lacking precise details, produce dimensioned full size sheets as the Record Drawings. For installations outside of structures, the locations shall be given by coordinates and elevations. Where substructures are encased in concrete, the outside dimensions of the encasement shall also be given.

F. In the case of those drawings which depict the detail requirements for equipment to be assembled and wired in the factory, the Record Drawings shall be updated by indicating those portions which are superseded by final Shop Drawings and by including appropriate reference information describing the Shop Drawings by manufacturer, drawing and revision numbers.

G. At the completion of the Work and after final inspection, copy the Record Drawing (as installed) data, using red ink, onto a new set of high quality prints provided by the CITY. Certify to the completeness and accuracy of the "as installed" information indicated on the prints with its signature. Then deliver as a submittal to the PROJECT MANAGER for review and approval both the field developed prints and the

final signed prints as a condition precedent to the CITY'S release of any retained funds.

9. EXCAVATION SHORING, FORMS, AND FALSEWORK

A. Whenever Work under the Contract involves trench excavation five (5) feet or more in depth, or any kind of shoring, design and prepare plans for the required shoring, bracing, and sloping. In addition to the Division 2 specified requirements, submit plans and calculations to the PROJECT MANAGER in advance of excavation to ensure workers' protection from the hazard of caving ground during the excavation. If such plan varies from the shoring system standards established by the Cal-OSHA Construction Safety Orders, the plan shall be prepared by a California registered civil or structural PROJECT MANAGER employed by the CONTRACTOR, and include all costs therefore in the price named in the Contract for completion of the Work as set forth in the Contract Documents. Nothing in this Article shall be deemed to allow the use of a shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Article shall be construed to impose liability on the CITY, PROJECT MANAGER, INSPECTOR, or any of their officers, agents, representatives, or employees.

B. Secure approval, in advance, from authorities concerned for the use of any bridges proposed by it for public use. Temporary bridges shall be clearly posted as to load limit, with signs and posting conforming to current requirements set forth in the Traffic Manual published by the California Department of Transportation, covering "signs". This manual shall also apply to the street closures, barricades, detours, lights, and other safety devices required.

C. Comply fully with the requirements of the Cal-OSHA Construction Safety Orders, regarding the design of forms, false work, and shoring for concrete placement, and the inspection of same before placement of concrete. Where the Construction Safety Orders requires the services of a civil PROJECT MANAGER registered in the State of California to approve design calculations and Working Drawings of the false work or shoring system, to inspect such system prior to placement of concrete, employ a registered civil PROJECT MANAGER for these purposes, and all costs therefore shall be included in the price named in the Contract for completion of the Work as set forth in the Contract Documents.

D. No Work under this Article shall start until the PROJECT MANAGER has accepted the plans and the CONTRACTOR has obtained permits required and furnished a copy to the PROJECT MANAGER.

10. SUBMITTALS

A. Furnish a schedule and list of required submittals to the PROJECT MANAGER, in accordance to CONTRACTOR'S CONSTRUCTION SCHEDULE AND REPORTS of these General Requirements, including required submittals by Subcontractors.

B. Wherever called for in these specifications or on the plans, or where required by the PROJECT MANAGER, furnish to the PROJECT MANAGER for review 10 copies of each submittal. The term "submittal" as used herein shall be understood to include detail design calculations, design drawings, Shop Drawings, Working Drawings fabrication and installation drawings, erection drawings, lists, graphs, operating instructions, catalog sheets, data sheets, samples, and similar items. Unless otherwise required, Submit said submittals to the PROJECT MANAGER at a time sufficiently early (see paragraph F. below) to allow review of same by the PROJECT MANAGER and to accommodate the rate of construction progress required under the Contract without delaying the Contract Work and with due regard for the possibility of resubmittals. Submittals shall be in English.

C. Design or Shop Drawings or other submittal shall be accompanied by the standard "CONTRACTOR's SUBMITTAL TRANSMITTAL" form. A submittal not accompanied by such a form, or where all applicable items on the form are not completed, or are incorrectly completed, may be returned, at the PROJECT MANAGER'S discretion, for resubmittal.

D. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates a review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the PROJECT MANAGER.

E. Shop Drawings shall show in detail the size, sections, and dimensions of all the member(s); the arrangement and construction of all connections and joints; all holes, straps, and other fittings required for attaching Work; and other pertinent details. When required, PROJECT ENGINEERING computations shall be submitted. Be responsible for delivering reviewed copies of Shop Drawings to all others whose Work is dependent thereon. Maintain at the site of the Project, a complete file of approved Shop Drawings and manufacturers' data for this Project, at all times.

F. Except as may otherwise be provided herein, the PROJECT MANAGER will make a reasonable attempt to return prints of each submittal to the CONTRACTOR, with its comments noted thereon, within 30 calendar days following their receipt by the PROJECT MANAGER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the PROJECT MANAGER by the second submission of a submittal item. The CITY reserves the right to withhold moneys due the CONTRACTOR to cover additional costs of the PROJECT MANAGER's review beyond the third submittal. Submittal will be returned to the CONTRACTOR with one of three (3) markings:

G. If three (3) copies of a submittal are returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN/PROCEED," formal revision and resubmission of said submittal will not be required.

H. If three (3) copies of a submittal are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED/PROCEED CONDITIONALLY," formal revision and resubmission of said submittal will not be required.

I. If one (1) copy of a submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT/DO NOT PROCEED," revise said submittal and resubmit TEN (10) copies of said revised submittal to the PROJECT MANAGER.

J. Work for which Shop Drawings are required shall be performed in accordance with the reviewed and approved copies. Fabrication of an item shall not commence before the PROJECT MANAGER has reviewed the pertinent submittal and returned the copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN/PROCEED," or "MAKE CORRECTIONS NOTED/PROCEED CONDITIONALLY." Revisions indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for claims for extra Work.

K. CONTRACTOR submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR prior to submission to the PROJECT MANAGER. Each submittal shall be dated, signed, and certified by the CONTRACTOR as being correct and in strict conformance with the Contract Documents. No consideration for review by the PROJECT MANAGER of any CONTRACTOR submittal will be made for any items that have not been so certified by the CONTRACTOR. Non-certified submittals will be returned to the CONTRACTOR without action taken by the PROJECT MANAGER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.

L. The PROJECT MANAGER's review of CONTRACTOR submittal shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions and conformance to the specifications. Assume all responsibility and risk for any misfits due to any errors in the submittal. Any fabrication or other Work performed in advance of the receipt of accepted submittals shall be entirely at the CONTRACTOR's risk and expense. Be responsible for the dimensions and the design of adequate connections and details.

11. SUBSTITUTIONS AND "OR EQUAL" SUBMITTAL

A. Make "Or Equal" submittals within thirty (30) calendar days after issuance of Notice-to-Proceed. A request or submittal received after the specified period will be considered as NOT EQUAL to that so specified and will be processed as a substitution described hereinafter.

B. Clearly identify manufacturers' data submitted to the PROJECT MANAGER for review and acceptance each proposed substitute with the corresponding Contract Drawing detail and Specification section. If the PROJECT MANAGER decides to accept for use in the Project a material, process or article which is not the equal of that specified, make substitution in the manner described in Article 52 CHANGES AND EXTRA WORK of the General Conditions, with a credit to the CITY for the difference in value.

C. The PROJECT MANAGER will determine whether the material offered is equivalent to that specified. Any revision to structures, piping, mechanical, electrical, instrumentation, or any other Work made necessary by such substitution must be approved by the PROJECT MANAGER, and the entire cost both direct and indirect of these revisions shall be borne by the CONTRACTOR.

D. Materials, processes, or articles may be requested as a substitution by the CONTRACTOR, in lieu of that specified, under the following conditions:

1. Submit in writing and in the manner described in SUBMITTAL of these General Requirements.

2. Submit thirty (30) calendar days before starting the Work, as established by the PROJECT MANAGER, so as not to cause any delay in completion of the Project. No other request will be considered after expiration of the period specified, except that in exceptional cases where it is determined to be in the best interest of the CITY, as approved by the PROJECT MANAGER.

3. Agree to pay for all PROJECT ENGINEERING and design services, if required, to make changes and adjustments in material and Work of trades directly or indirectly affected by the substitute, to the satisfaction of the PROJECT MANAGER, at no cost to the CITY.

4. All requests for substitution shall be made through the CONTRACTOR. Submissions by the CONTRACTOR shall imply the CONTRACTOR's approval of such substitution.

5. No requests for substitutions will be considered during the bidding period.

6. Furnish adequate data with each request for approval of a substitute to enable the PROJECT MANAGER to evaluate the proposed substitution.

MATERIALS, EQUIPMENT, AND APPLIANCES

12. SURVEYING

A. DEFINITIONS

1. CONTRACTOR’s Surveyor - Shall be a registered (licensed) Land Surveyor or Registered Civil Engineer authorized to practice land surveying by the State of California in compliance with Business and Professions Code Section 8700, *et. Seq*. cited as the Land Surveyor’s Act.

2. Construction Stakes - Durable markers that will maintain elevations, station, and offset for the duration of use as reference markers for construction.

3. Surveying - Described in Section 8726 of the Land Surveyor’s Act.

4. Survey Manual - City of Los Angeles, Bureau of PROJECT ENGINEERING Manual, Part J – Survey.

B. SURVEY SERVICES

1. The CONTRACTOR's Surveyor shall comply with State Law and the latest edition of the Standard Specifications for Public Works Construction, "Green Book", and its supplement.

    a. The contractor shall employ the Contractor's Surveyor.

    b. All work shall utilize CCS 83, Zone 5, and NAVD 88 control systems.

    c. CONTRACTOR's Surveyor to utilize horizontal & vertical control provided by PROJECT MANAGER and referenced on drawings.

    d. Work shall conform to the lines, elevations, and grades shown on the plans.

    e. CONTRACTOR's Surveyor shall notify the PROJECT MANAGER, in writing, of all material discrepancies between existing survey control and the current Work. Any material discrepancies shall be resolved prior to start of construction.

    f. During progress of construction, CONTRACTOR's Surveyor to provide surveying services as necessary, or as requested by PROJECT MANAGER or INSPECTOR, to assure construction complies with Contract Documents.

    g. CONTRACTOR's Surveyor shall fulfill duties of "PROJECT MANAGER" described in Standard Specifications for Public Works Section 2.9, Surveying, except that the City forces shall be notified 7 days prior to the CONTRACTOR disturbing any street centerline control monuments so they can be preserved by City forces.

2. Safety - CONTRACTOR's Surveyor shall conform to recommended safety standards for all Work, as set forth in the latest edition of Work Area Traffic Control Handbook (WATCH) adopted by the City of Los Angeles Board of Public Works. Compliance with the Confined Space Regulations in the California Code or Regulations, Title 8, Section 5157 of the Cal/OSHA Safety Orders is mandatory.

C. CONSTRUCTION SURVEYS:

1. Conform to Survey Manual Part J, Section J 600 of Bureau of PROJECT MANAGER.

2. CONTRACTOR's Surveyor - Provide all reference stakes and form checks necessary for construction and inspection of improvements. Document construction staking in survey field notes as described in Part C.4 in this Article. Staking may include, but is not limited to - removals, joins, rough grade, slope, utilities, storm drain, sewer, curb, walk, paving, wall, tunnels, building stakes and other staking necessary for construction and inspection.

3. Form Checks - CONTRACTOR's Surveyor to check forms where durable points may be disturbed, removed, or is impractical to be used to verify the design location. Record measured location in survey field notes as described in Part C.4 in this Article. Notify PROJECT MANAGER of all variations from plan locations.

4. Staking Interval and Offset Lines - Staking intervals shall be in accordance with Survey Manual, Figure J 615.225A. CONTRACTOR's Surveyor to set stake lines at an offset distance from the improvement to ensure proper grade, station and alignment.

5. Utility Stakes - CONTRACTOR's Surveyor shall provide stakes for utilities, public or private, which require location or relocation unless PROJECT MANAGER states otherwise.

13. SITE INVESTIGATION

A. Before beginning the Work, inspect related and appurtenant Work and report in writing to the PROJECT

MANAGER conditions which will prevent proper completion of the Work. Except as provided for in Article 53, DIFFERING SITE CONDITIONS, of the General Conditions, failure to report any such conditions shall constitute acceptance of all site conditions, and required removal, repair, or replacement caused by unsuitable conditions shall be performed by the CONTRACTOR at its sole cost and expense without any adjustment in the Contract Price or extension of the Contract Completion Date.

14. INSPECTION OF THE WORK

A. Whenever the CONTRACTOR intends to carry on the Work of this Contract on a Saturday, Sunday, or holiday, or more than two eight (8) hours a day shifts on Monday through Friday, or any variation in the time of the workday as set forth in the GENERAL CONDITIONS, length of the workday and work week, notification shall be given to the INSPECTOR and the PROJECT MANAGER of such intention at least forty-eight (48) hours in advance so that inspection may be arranged. No Work shall be allowed during these times without the approval of the INSPECTOR and no demolition will be permitted on Saturdays, Sundays, or holidays without the prior approval of the Board. All CITY inspection required by the CONTRACTOR on holidays, weekends and overtime for the sole convenience of the CONTRACTOR shall be accomplished at the sole expense of the CONTRACTOR by issuance of a deductive Change Order.

B. Conduct the Work under the general observation of the PROJECT MANAGER and be subject to inspection by the INSPECTOR to ensure compliance with the requirements of the Contract Documents. Such inspection may include mill, Plant, shop or field inspection, as required. The INSPECTOR shall be permitted access to all parts of the Work, including Plants where materials or equipment are manufactured or fabricated. Materials and articles furnished by the CONTRACTOR shall be subject to inspection, and no materials or articles shall be used in the Work until they have been inspected and accepted by the INSPECTOR.

C. Do not backfill, bury, cast concrete, hide or otherwise cover Work until it has been inspected by the INSPECTOR, and other Agencies from which a permit is required. Whenever the CONTRACTOR is ready to backfill, bury, cast in concrete, hide, or otherwise cover any Work under the Contract, notify the INSPECTOR not less than forty-eight (48) hours in advance to request inspection before beginning such Work of covering. Failure of the CONTRACTOR to notify the INSPECTOR at least forty-eight (48) hours in advance of such inspections will be cause for the INSPECTOR to require a sufficient delay in the progress of Work to allow time for such inspections and any remedial or corrective Work required, and costs of such delays, including its effect upon other portions of the Work, shall be borne by the CONTRACTOR. Work so covered in the absence of inspection shall be subject to uncovering at the sole expense of the CONTRACTOR. Where uninspected Work cannot be uncovered, such as in concrete cast over reinforcing steel, such Work shall be subject to demolition, removal, and reconstruction under proper inspection, and no additional payment will be allowed therefore.

D. The presence of the PROJECT MANAGER or the INSPECTOR, shall not relieve the CONTRACTOR of the responsibility for the proper execution of the Work in accordance with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the PROJECT MANAGER or the INSPECTOR. If the CONTRACTOR fails to replace any defective or damaged Work or material after reasonable notice, the INSPECTOR may cause such Work or materials to be replaced. The replacement shall be deducted from the amount to be paid to the CONTRACTOR, otherwise the CONTRACTOR shall pay the CITY if there remains insufficient or no amount to be paid by the CITY to the CONTRACTOR.

E. The INSPECTOR will have the right, at all times and places, to reject any articles or materials to be furnished hereunder which, in any respect, fail to meet the requirements of these specifications, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the Work at the site. If the INSPECTOR, through an oversight or otherwise, has not rejected materials or Work which is defective or which is contrary to the specifications, such material, no

matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the INSPECTOR upon discovery. Promptly remove rejected articles or materials from the site of the Work after notification of rejection. Costs of removal and replacement of rejected articles or materials as specified herein shall be borne by the CONTRACTOR.

F. At the completion of Work, after completion of all corrections, a final inspection will be made by the INSPECTOR, the PROJECT MANAGER, and the CONTRACTOR, as applicable. The INSPECTOR will provide a Final Inspection Correction List itemizing all Work necessary to complete the Project satisfactorily.

15. SAMPLING, TESTING AND FABRICATION INSPECTION

A. GENERAL

1. Materials and fabricated articles furnished by the CONTRACTOR may be subject to inspection and testing and no materials or fabricated articles shall be incorporated into the Work until they have been accepted by the INSPECTOR. The CONTRACTOR shall ensure that all items requiring shop inspection are inspected at their source as required by the CONTRACT.

2. Fabrication may be subject to inspection by the INSPECTOR, to ensure strict compliance with the requirements of the Contract Documents. Such inspection may include mill, plant, shop or field inspection, as required. The PROJECT MANAGER or INSPECTOR shall be permitted access to all parts of the Work, including Plants where materials or equipment are manufactured or fabricated. When a third party inspector is approved, meetings may be scheduled with the PROJECT MANAGER or INSPECTOR at the manufacturing facility to review the progress of the Work and the inspection activities.

3. Fabricate items using Shop Drawings that have been submitted to the PROJECT MANAGER and approved in accordance with SUBMITTALS of the GENERAL REQUIREMENTS. Provide shop inspection on materials and/or equipment so designated on the CONTRACTOR's approved Shop Drawings.

4. Material which is subject to or requires shop inspection and arrives at the job site without inspection by the INSPECTOR will be rejected by the INSPECTOR and shall be removed from the job site by the CONTRACTOR at the CONTRACTOR's sole expense.

B. SAMPLES AND TEST SPECIMENS

1. CONTRACTOR shall obtain, perform and pay for all testing. Testing shall be performed at a certified laboratory approved by the PROJECT MANAGER.

2. Samples and test specimens required under these specifications shall be furnished, prepared for testing, and delivered, to the approved testing laboratory at no cost to the CITY.

3. In addition to any other inspection or quality assurance provisions that may be specified, the PROJECT MANAGER or the INSPECTOR shall have the right to independently select, test, and analyze, at the expense of the CITY, additional test specimens of any or all of the materials to be used. Whenever any portion of the Work fails to meet the requirements of the specifications as shown by the results of independent testing or investigation all costs of such independent inspection and investigation, and all costs of removal, correction, and reconstruction or repair of any such Work shall be borne solely by the CONTRACTOR.

4. When the manufacturer, fabricator, supplier, or subcontractor provides the results of tests from samples taken at the mill, factory, or warehouse, the PROJECT MANAGER or INSPECTOR will accept the test reports provided the following conditions are met:

a. The Testing Agency was approved by the PROJECT MANAGER or INSPECTOR prior to performing the tests, and that all necessary certifications were valid at the time the tests

were performed.

b. The tests were performed in conformity with the specifications for the specified materials or items.

c. The reports are made in the form of an affidavit specified hereinafter.

5. Whenever the approved independent testing laboratory or inspector takes samples of materials other than at the site, the deliveries to the site of materials represented by such samples shall be identified as specified for the specific material. The results of such tests shall be reported to the INSPECTOR in the form of affidavits attested to by the testing agency. Such affidavits shall furnish the following information with respect to the material sampled:

   a. Manufacturer's name and brand.

   b. Place of sampling.

   c. Sufficient information to identify the lot, group, bin, or silo from which the samples were taken.

   d. Amount of material in the lot sampled.

   e. Statement that the material has passed the requirements.

   f. Notarized signature and title of the person making the affidavit and the date of execution of the affidavit.

6. THIRD PARTY INSPECTION REQUIREMENTS

   a. The proposed third party inspection and/or testing company must gain approval by the PROJECT MANAGER after award. Obtain this approval before producing any material or manufacturing any product or equipment. The approved inspection and/or testing agency shall not sublet or assign its Work to any other agency.

   b. Comply with requirements as identified in the CONTRACT.

   c. The Work and activities of the third party inspection and/or testing agency shall be monitored by the INSPECTOR during meetings to ensure compliance with the Contract Documents.

7. THIRD PARTY TESTING AND INSPECTION LABORATORY APPROVAL PROCEDURES

   a. The PROJECT MANAGER will approve third party inspection and/or testing agencies/laboratories.

   b. Requests for approval of a third party inspection agency and/or test laboratory shall be in writing from the CONTRACTOR to the PROJECT MANAGER.

   c. The letter requesting approval of a third party test laboratory and/or private inspection agency shall contain all of the following information:

      i. Complete title of Project.

      ii. Project Work order number.

      iii. Name of proposed testing laboratory or inspection agency.

      iv. Address and telephone number of proposed testing laboratory/inspection agency.

      v. Contact person at proposed testing laboratory/inspection agency.

   d. The PROJECT MANAGER will notify the CONTRACTOR by letter if the testing

laboratory/inspection agency has been approved.

16. GUARANTY/WARRANTY

A. The CONTRACTOR shall and does hereby warrant and guaranty that Work executed under this Contract will be free from defects of materials and workmanship for a period of one (1) year from the date of final acceptance of the Project by the Recreation and Park Commission, except certain specific items of Work, materials and equipment requiring a guaranty or warranty for a greater period of time as hereinafter specified. In the event, that portions of the Work are sufficiently complete to allow use or occupancy by the CITY in the manner and for the purposes intended prior to final completion and acceptance of the Project, the guarantee period for those portions will commence on the date shown on the Statement of Partial Completion.

B. The CONTRACTOR hereby agrees to indemnify and save harmless the CITY, and their officers, agents and employees against and from all claims and liability arising from damage and injury due to said defects. The CONTRACTOR shall repair or replace, at no cost to the CITY, any and all such defective Work and all other Work damaged thereby, which becomes defective during the term of the above-mentioned guaranties and warranties.

C. Within thirty (30) calendar days prior to completion of all Work the CONTRACTOR shall submit to the PROJECT MANAGER original copies of all manufacturers guaranties covering all supplied and installed equipment and, where applicable, systems.

D. In addition to the requirements of Contract Bonds, of the General Conditions, it shall be understood that the Surety for the faithful performance bond, submitted in conformance with the terms of the Contract for this Project, is liable on its bond for all obligations of the CONTRACTOR including guaranty provisions.

E. The CONTRACTOR shall, within twenty-four (24) hours of notice from the PROJECT MANAGER of any Work not in accordance with the requirements of the Contract, or any defects in the Work, commence and prosecute with due diligence all work necessary to fulfill the terms of this Article and to complete the Work within a period of time as approved by the PROJECT MANAGER. In the event of failure by the CONTRACTOR and/or its surety to respond to the notice or to complete the Work required by this Article within the time specified, the CITY shall proceed to have such Work done at the CONTRACTOR's expense. The CONTRACTOR or its Surety shall promptly reimburse the CITY all direct and indirect cost associated with performing this Work.

17. STORAGE OF MATERIALS AND EQUIPMENT

A. Store and protect materials and equipment in accordance with the manufacturer's instructions, with seals and labels intact and legible. Exercise measures necessary to ensure preservation of the quality, quantity, and fitness of the materials or equipment and perform the manufacturers recommended maintenance of the material or equipment. Absorb any and all cost incurred to store, protect, and maintain the materials and equipment without modification to the Contract Amount.

B. Do not store construction materials in streets, roads, or highways for more than 5 days after unloading. Materials or equipment not installed or used in construction within 5 days after unloading shall be stored elsewhere by the Contractor at its expense unless authorized additional storage time.

C. Do not store construction equipment at the worksite before its actual use on the Work, nor after use for more than 5 days after it is no longer needed.

D. Excavated material, except that which is to be used as backfill in the adjacent trench within three days shall not be stored in public streets unless otherwise permitted. Remove excess material after placing backfill from the site immediately.

PROGRESS OF THE WORK

18. CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK

A. After notification of award and prior to start of any work, the Contractor shall submit its Schedule of Values to the Project Manager for review and approval. Upon approval of the Schedule of Values, and prior to start of any contract work, other than mobilization, the Contractor shall submit its Baseline Schedule to the Project Manager for acceptance. The Baseline Schedule shall be based on the approved Schedule of Values. The approved Schedule of Values work items shall be the basis for the construction elements for the accepted Baseline Schedule and the Monthly Billing items. As a minimum the Baseline Schedule shall indicate the work plan of all specifications sections. The Baseline Schedule shall include, but is not limited to: all items noted on I.2.a. through I.2.f. and I.2.h. through I.2.o. The Baseline Schedule shall recognize the protection, removal, or relocation of utilities and how they affect construction. The Baseline Schedule shall also reflect completion of all work under the Contract within the specified time and in accordance with the Specifications.

Unless otherwise provided, the Contract time shall commence as indicated in the Notice-to-Proceed letter. The Work shall start within 10 days thereafter, and be diligently prosecuted to completion within the time provided in the Specifications or as modified through change order.

Upon acceptance of the Baseline Schedule by the Project Manager, the Contractor shall maintain a copy of the accepted schedule in the jobsite office, recording thereon progress of the work at the end of each calendar week.

B. Methodology: The Baseline Schedule and all Updated Progress/Recovery Construction Schedules (UPRS) shall be in the form of a Critical Path Method schedule showing chronological relationship of all activities of the project. The principles and definitions of the terms used herein shall be as set forth in the Associated General Contractor's publication "As-Planned CPM Schedule - Handbook", latest edition. To the extent there are any conflicts between the Associated General Contractor's publication and the Specifications, the Specifications shall govern. The Contractor shall utilize Primavera Sure-Trak 3.0 or Microsoft Project 2000 as the computer program for formatting the Baseline Schedule, and subsequent updated schedules.

C. The Contractor shall have the right to complete the job in advance of the scheduled completion date and within the allowable days allotted for the project. In the event that the Contractor elects to finish the project in advance, a Change Order shall be issued to reflect reduced duration and revised completion date. The Contractor shall not be entitled to any additional compensation for early project completion.

D. A schedule showing the Work completed in less than the Contract Time, which has been accepted by Owner and amended by Change Order, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the Work and Contract Substantial Completion. Project Float is a resource available to both City and Contractor. No compensation shall be due to the Contractor for use of this float time by either party.

E. Float Ownership: Neither City nor Contractor owns float. The Project owns the float. As such, liability for delay of any Substantial Completion date rests with the party whose actions, last in time, actually cause delay to a Substantial Completion date.

F. The Contractor shall forward to the General Manager, along with the monthly Request for Payment, the Updated Schedule, referred to in Section B of this Article, indicating the progress of any part of the work not up to Baseline Schedule, stating the existing status, cause of delay, impact of change orders and approximate time of completion.

G. If the Contractor should fall behind the progress schedule by more than one month, the Contractor must provide the General Manager with an Updated Progress/Recovery Schedule (UPRS). Failure to comply with the full requirements of this Article shall be cause for withholding all future progress payments until full compliance. Failure to provide more than 2 consecutive Updated Schedules or UPRS shall constitute grounds for cancellation of the project.

H. The Department reserves the right to request a two-week "look ahead" schedules if the Department

determines that the submitted UPRS does not reflect the as-built condition, manpower utilization or sequential progress necessary to fulfill the intent of the UPRS.

I. Network Details:

1. The Schedule shall include time-scaled network diagram, based on working days, as well as tabulations. It shall be constructed to show the order in which the Contractor proposed to carry out the Work, to indicate restrictions of access and to show availability of work areas, and availability and use of manpower, materials and equipment. The Contractor shall utilize the Schedule in planning, scheduling, coordinating, and performing the Work under the Contract (including activities of Subcontractors, equipment venders, and Suppliers). Provide the Project Manager with written confirmation of the concurrence of listed trade Subcontractors and Suppliers with the Schedule. Major trade Subcontractors and Suppliers shall approve the Schedule before they are submitted.

2. The Schedule shall provide the Project Manager and Inspector with a tool to monitor and follow the progress of all phases of the Work. The Schedule submitted to the Project Manager shall comply with all limits imposed by the scope of Work, and with all constraints, restraints or sequences included in the Contact. The degree of detail shall include factors to the satisfaction of the Project Manager, including, but not limited to:

   a. Physical breakdown of the Project including estimated starting and completion dates of activities.

   b. Float Time.

   c. Contract milestones and completion dates, building occupancy date, constraints, restraints, sequences of Work shown in the Contract, the maintenance period and the final completion date. Durations shall be in calendar day.

   d. Type of Work to be performed, and the sequences.

   e. Purchases, submittals, submittal reviews, manufacturing, tests, delivery, and installation activities for all major materials and equipment.

   f. Deliveries of City furnished equipment and/or materials in accordance with the dates or schedule windows of such items set forth in the Contractor furnished by the Project Manager, or items to be salvaged and delivered to the City.

   g. Preparation, submittal and approval of Shop Drawings and material samples showing a thirty (30) day minimum time specified for the Project Manager's review of normal or routine submittals. A forty (40) day review time for all major submittals and the same time frame shall be allowed for at least one (1) re-submittal on all major submittals.

   h. Impact of Change Orders issued to the Contract.

   i. Approvals required by regulatory agencies or other third parties.

   j. Plans for all subcontract Work.

   k. Access to and availability of Work areas including all anticipated shutdowns.

   l. Identification of linkage between preceding, concurrent and follow-on Sub- contractors and utilities that are shown on the Plans or called out in the Specifications.

   m. Actual tests, submission of test reports, and approval of test results.

   n. Training and classes required under the Contract.

   o. Pre-Final and Final Inspection punch lists and final cleanup, allow time for preparation of the punch lists.

p. Clearly identify any manpower, material, or equipment restrictions, as well as any activity requiring unusual shift Work, specified overtime, or Work at times other than regular days or hours.

3. Durations of the labor, equipment, and materials required to perform each activity shall be based on a normal work day unless otherwise approved by the Project Manager.

4. Critical or near critical paths resulting from the use of manpower or equipment restraints shall be kept to a minimum. Near critical paths shall be defined as those paths having fifteen (15) working days or less of total float as shown on the accepted Baseline Schedule.

5. Time scale shall show a continuous flow of information from left to right. The critical path shall be clearly and graphically identified on the schedule.

J. SCHEDULE REPORTS

1. The Schedule submitted to the Project Manager shall include the time scaled network diagram. Network diagrams shall be based on early start and early finish dates of activities shown and any related calculations generated by the scheduling program which describes the events and activities depicted.

K. APPROVAL OF BASELINE SCHEDULE

1. Acceptance Process:

2. The Project Manager will accept or reject, in writing, the Contractor's submission within fourteen (14) days after receipt of required information. The Construction Schedule, once accepted, becomes the Baseline Schedule which shall be used for monitoring and evaluating all facets of Contract performance, including, but not limited to: payment progress, changes, and delays.

3. Revise the Schedule, periodically per B, F, G, and H of this Article.

L. REVISIONS TO ACCEPTED BASELINE SCHEDULE

1. No change to the accepted Baseline Schedule shall be made without the prior written approval of the Project Manager.

M. UPDATES TO ACCEPTED BASELINE SCHEDULE AND PROGRESS PAYMENTS

1. Updated Schedules or UPRS:

a. See Section F of this Article.

b. The Update Report shall show the activities or portions of activities completed during the reporting period and their total value as the basis for the Contractor's monthly request for payment. Payments made pursuant to Partial Payments of these General Requirements will be based on the total value of such activities completed or partially completed after verification by the Inspector. The report shall state the percentage of the Work actually complete as of the report date.

N. RESPONSIBILITY FOR COMPLETION

1. Whenever it becomes apparent from the Updated Schedule or UPRS that phasing, milestone, constraint, restraint, or Contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:

a. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of Work.

b. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog or Work. Contractor shall be responsible for all additional costs

associated in having the Inspector present at the job site for all periods in excess of the basic work day.

c. Reschedule the Work in conformance with the Specification requirements.

2. Before implementing any of the above actions, the Contractor shall notify and obtain written approval from the Project Manager.

3. Under no circumstances will the addition of equipment or construction forces, increasing the working hours or any other method, manner, or procedure to return to the contractually required completion date be considered justification for a Change Order or be treated as acceleration where the need for a UPRS has been caused by the Contractor and/or its Subcontractors or Suppliers, at any tier.

4. The Project Manager may elect to withhold progress payments until the Contractor's progress indicates that the milestone date(s) and/or the Contract completion date will be met.

19. WORK BY CITY OR OTHERS

A. Be responsible for ascertaining the nature and extent of any simultaneous, collateral and essential work by others. The CITY, its employees and contractors, and others, shall have the right to operate within or adjacent to the worksite to perform such Work.

B. The CITY, the CONTRACTOR, and each of such employees, contractors and others, shall coordinate their operations and cooperate to hold interference to a minimum.

C. Include in its Bid all costs involved as a result of coordinating its Work with others. The CONTRACTOR shall not be entitled to additional compensation from the CITY for damages resulting from such simultaneous, collateral and essential Work. The CONTRACTOR's coordinating efforts shall include redeployment of his Work forces to other parts of the Work.

PAYMENT FOR WORK

20. PARTIAL PAYMENTS (Revised as of 02/12/16)

A. Unless otherwise prescribed by law, three (3) working days prior to the last work day of each month, or other such date mutually agreed upon by the CONTRACTOR and the INSPECTOR, the CONTRACTOR shall prepare and submit to the INSPECTOR, an estimate of the cumulative amount and value of acceptable Work performed by the CONTRACTOR at the jobsite up to that date. Said amount shall also include the value of all acceptable materials and equipment for the Contract that have been delivered and suitably stored but not yet used in the Work, subject to the requirements of PAYMENTS FOR MATERIALS OR EQUIPMENT DELIVERED AND STORED ON THE JOBSITE and PAYMENT FOR MATERIALS OR EQUIPMENT STORED OFF THE JOBSITE of these General Requirements.

B. Payments for undelivered, specifically manufactured equipment to be incorporated into the Work, excluding "off the shelf " or catalog items, will be made when all of the following conditions exist:

1. The equipment must be specifically designated in the Technical Specifications for partial payment prior to delivery.

2. The equipment to be specifically manufactured for the Project could neither be readily utilized on nor diverted to another job, and,

3. A fabrication period of more than six (6) months is anticipated,

C. Upon verification and approval by the INSPECTOR, such estimate shall be processed by the INSPECTOR in accordance with the provisions of the California Public Contracts Code.

D. The CITY may retain a portion of the amount otherwise due to the CONTRACTOR, as follows:

1. Retention of **five percent (5%)** will be held on the original Contract value on each approved

payment claim until the amount paid of the original Contract equals fifty percent (50%). The CITY may then, at its sole discretion discontinue further retention on the original Contract value for all subsequently approved payment claims.

2. At any time during the course of the Contract, the CITY may, at its sole discretion, reinstate the **five percent (5%)** retention.

3. Additional deductions will be made from each monthly payment request for amounts due the CITY as follows:

   a. Equipment or materials furnished by the CITY.

   b. Services rendered to the CONTRACTOR by the CITY.

   c. Amounts due the CITY for liquidated damages or penalties under the terms of the Contract.

   d. Amounts required to be deducted by federal, state, or local governmental authority or other provisions of these Contract Documents.

E. From the balance thus determined will be deducted the amount of all previous payments, and the remainder shall constitute the monthly payment due the CONTRACTOR. Within thirty (30) calendar days after receipt of the INSPECTOR's recommendation by the Department of the monthly payment due the CONTRACTOR and subject to the deductions provided, herein, the CITY will pay the amount found due.

F. On lump-sum items the INSPECTOR's estimate of the monthly payment due the CONTRACTOR will not be required to be made by strict measurement, and an approximate estimate will suffice.

G. The monthly payments may be withheld or reduced, for the following reasons:

1. If the CONTRACTOR is not diligently or efficiently complying with the express intent of the Contract.

2. If there are unresolved Notices of Non-Compliance.

3. If Technical Manuals are not submitted.

4. If Record Drawings are not kept up-to-date.

5. If progress photographs are not submitted, and

6. If construction schedules are not submitted in accordance with these General Requirements.

7. The CONTRACTOR shall promptly submit the following in response to requests by the INSPECTOR:

8. Information and records necessary to determine the cost of the Work for purposes of estimating monthly payment.

9. Itemized statements, in a form satisfactory to the INSPECTOR, of the actual cost of all acceptable materials delivered by the CONTRACTOR to the site.

H. The making of any payment to the CONTRACTOR shall not relieve the CONTRACTOR from contractual obligations. These payments shall not be construed as the transfer of ownership of any equipment or materials to the CITY.

I. Responsibility of ownership shall remain with the CONTRACTOR who shall be obligated to store, protect, repair, replace, rebuild or otherwise restore any fully or partially completed Work or structure for which payment has been made. The CONTRACTOR shall replace any materials or equipment required to be provided under the Contract that may be damaged, lost, stolen, or otherwise degraded in any way prior to acceptance of the Work under the Contract.

J. At its own expense, the CONTRACTOR has the option, to substitute for any money being withheld by the

CITY, securities equivalent to the amount being withheld. Securities eligible for such substitution are bank or savings and loans certificates of deposit or such securities eligible for investment pursuant to California Government Code. Any such security or securities so substituted for monies withheld, shall be owned by the CONTRACTOR who shall receive earned interest.

K. Such security shall, at the request and expense of the CONTRACTOR, be deposited with CITY or with a State or Federally Chartered Bank as the escrow agent who shall pay such monies to the CONTRACTOR upon notification by the CITY that payment can be made. Such notification will be given at the expiration of sixty (60) calendar days from the date of acceptance of the Work by the Board, or as prescribed by law, provided, however, that there will be a continued retention of necessary securities to cover such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

L. Any escrow agreement entered into pursuant to this provision shall contain as a minimum, the following provisions - the amount of securities to be deposited; the terms and conditions of conversion to cash in case of the default of the CONTRACTOR; and the termination of the escrow upon completion of the Contract and the other requirements as herein above provided.

21. PAYMENT FOR MOBILIZATION

A. General Mobilization

1. Payment for general mobilization shall be limited to those items of Work described in MOBILIZATION, of these General Requirements.

2. The CONTRACTOR shall submit to the PROJECT MANAGER for approval a breakdown of the amount established for mobilization. The payment for each item of mobilization will be made when that item of mobilization has been completed and as specified below:

3. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is five percent (5%) or more of the original Contract amount, the total amount earned for mobilization may be up to fifty percent (50%) of the Contract item price for mobilization or five percent (5%) of the original Contract amount, whichever is less will be included in the said estimate for payment.

4. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is ten percent (10%) or more of the original Contract amount, the total amount earned for mobilization may be up to seventy-five (75%) of the Contract item price for mobilization or seven point five percent (7.5%) of the original Contract amount, whichever is less will be included in the said estimate for payment.

5. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is twenty percent (20%) or more of the original Contract amount, the total amount earned for mobilization may be up to ninety-five percent (95%) of the Contract item price for mobilization or nine point five percent (9.5%) of the original Contract amount, whichever is less will be included in the said estimate for payment.

6. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is fifty percent (50%) or more of the original Contract amount, the total amount earned for mobilization may be up to one hundred percent (100%) of the Contract item price for mobilization or ten percent (10%) of the original Contract amount, whichever is less will be included in the said estimate for payment.

7. After acceptance of the Contract by the BOARD, the amount, if any, of the Contract item price for mobilization in excess of ten percent (10%) of the original Contract amount will be included for payment in the final monthly payment.

8. The Contract lump sum price paid for mobilization shall include full compensation for furnishing all

labor, materials, tools, equipment, and incidentals, and for doing all the Work involved in mobilization as specified herein.

9. The adjustment provisions in PAYMENT FOR CHANGES AND EXTRA WORK of these General Requirements, and the retention of funds provisions of PARTIAL PAYMENTS of these General Requirements shall not apply to the Contract lump sum item for Mobilization.

10. When other Contract items are adjusted as provided in PAYMENT FOR CHANGES AND EXTRA WORK of these General Requirements, if the costs applicable to such item of Work include mobilization costs, such mobilization costs will be deemed to have been recovered by the CONTRACTOR by the payments made for mobilization and will be excluded from consideration in determining compensation under said Article.

11. When the Contract does not include a Contract pay item for mobilization as specified above, full compensation for any necessary mobilization required shall be considered as included in the prices paid for the various Contract items of Work involved and no additional compensation will be allowed.

22. PAY ITEM DEFINITIONS

This Article describes methods of measurement and payment for lump sum and unit priced items listed on the Schedule of Work and Prices, contained in the Contract Proposal.

A. The Contractor shall not take advantage of any apparent error or omission on the Drawings or Specifications, and the PROJECT MANAGER shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

B. All portions of the Work are either in an applicable allowance, lump sum, or unit price item listed on the schedule of Work and Prices. Work for which there is not a separate item will be considered incidental to the contract and no additional compensation shall be allowed.

C. ALLOWANCES

1. Fixed allowances may have been allocated to the Schedule of Work and Prices for certain items of work. Requirements for each Allowance Item are specified below or a reference is given to the General Requirements article that describes the work. Allowance item work is to be performed only as directed by the PROJECT MANAGER. Unless otherwise noted, Allowances will be paid on a time and materials basis in accordance with Section C, PARTIAL PAYMENTS of these General Requirements.

2. If allowance items are not executed or are only partially executed or the allowance for any item is not expended or partially expended, then a deductive change order shall be issued for the amount that is not expended. If, however, these items are over expended then an appropriate change order shall be executed in accordance with, PAYMENT FOR CHANGES AND EXTRA WORK, of these General Requirements.

D. LUMP SUM ITEMS:

1. Payment of the lump sum items established in the contractor's Bid under the various line items in the Bid Form shall be full compensation for all labor, materials, and equipment required to furnish, install, construct, and test the Work covered under the lump sum bid item.

2. Payment for the lump sum items established in the Contractor's Bid shall also fully compensate the Contractor for any other work which is not specified or shown, but which is necessary to complete the Work.

3. Payments for Lump Sum Work other than Mobilization will be based upon physical progress for each activity in accordance with the breakdown of the Lump Sum prices agreed to in the Schedule of Values.

E. UNIT PRICE ITEMS:

1. Payment for all work shall be in accordance with the unit price bid items in the schedule of Work and Prices and shall be full compensation for all labor, materials, and equipment required to furnish, install, construct and test the Work covered under the unit price bid item. Work for which there is not a price schedule item will be considered incidental to the Work and no additional compensation shall be allowed.

2. Payment will be made only for the actual quantities of work performed in compliance with the Drawings and Specifications. The Contractor will receive reimbursement equal to the approved quantity times applicable unit price.

23. SCHEDULE OF VALUES

A. The Schedule of Values will be used as a basis for determining progress payments on a lump sum Contract or any designated lump sum bid item. The Schedule of Values shall be a schedule of cost loaded construction activities equal, in total, to the lump sum bid and shall be in such form and sufficient detail to correctly represent a reasonable apportionment of the lump sum. Prior to submitting an invoice for payment, the CONTRACTOR shall have submitted a detailed Schedule of Values and obtained approval from the PROJECT MANAGER.

B. Each lump sum bid item on the Schedule of Work and Prices as set forth in the Bid must be broken down separately. The breakdown of each lump sum bid item must cover the cost of construction required by the plans and specifications for that item. The sum of the values for the construction activities, within a bid item must equal the total amount bid for that item.

C. Each activity in the Schedule of Values shall delineate one construction activity. For example, the placement of concrete between construction joints, the construction of an electrical duct bank or pipeline between points A & B. The costing for each activity should include all costs for the labor and materials or equipment required to complete the activity. For example, concrete construction activities should include all costs for the forming, placing of reinforcement, placing concrete and curing. The cost for pipeline construction activities should include materials, equipment and installation including pipeline supports or thrust blocks. The excavation and backfill for a pipeline or structure may be separate activities. No non-construction activity shall be cost loaded.

24. NOTICE TO WITHHOLD AND/OR STOP NOTICE

A. When a "Notice to Withhold" or "Stop Notice" is served upon the CITY, or the BOARD, pursuant to the lien statutes of the State of California, to withhold sufficient funds from payments to the CONTRACTOR in support of a claim resulting from default by the CONTRACTOR in payment for labor or materials used in prosecution of the Contract, the CITY shall withhold from payment due the CONTRACTOR an amount of money equal to the amount of the claim stated in the "Notice to Withhold" or "Stop Notice," and an additional amount equal to twenty-five percent (25%) of the amount of said claim, to defray the costs of litigation in the event of court action on the claim, for a total withholding of one and one quarter times the stated amount of the claim. At the discretion of the CITY, the CITY may allow the CONTRACTOR to file with the CITY the bond referred to in the Civil Code of the State of California after which said monies will not be withheld on account of such "Notice to Withhold" or "Stop Notice."

B. In the event the Contract is terminated for CONTRACTOR default, any funds due the CONTRACTOR and retained by the CITY in accordance with PARTIAL PAYMENTS of these General Requirements, shall become the property of the CITY to the extent necessary to repay to the CITY any excess in the Contract price above the cost of the Work completed at the time of termination. After issuance of notice to discontinue Work, no further payments will be made to the CONTRACTOR for the Work covered by the notice until completion of Work and final settlement has been made.

25. FINAL PAYMENT

A. Final payment to the CONTRACTOR is made following action by the BOARD that formally adopts the

recommendation of the PROJECT MANAGER to accept the Contract.

B. After acceptance of the Work by the BOARD and not more than sixty (60) calendar days after filing Notice of Completion, the CITY will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract, including the following items:

1. Liquidated damages, as applicable;

2. Lien claims or Stop Notices filed on behalf of suppliers, Subcontractors, and labor performed in connection with the Project; except, that upon submittal of a Stop Notice Release Bond issued by an approved Surety Company executed in favor of the CONTRACTOR, the CITY will release such portion of the retainage funds to said CONTRACTOR that is being held solely to cover Stop Notice Claims.

3. No claim of the CONTRACTOR under this Article shall be allowed unless the CONTRACTOR has given the required written notice. Nor shall a claim by the CONTRACTOR for an equitable adjustment hereunder be allowed if asserted after final payment under this Contract.

26. CHANGE ORDER REQUESTS

A. The CONTRACTOR's quotations for preliminary change orders for extras, changes, additions, or deletions to the Work as described in Article 52 CHANGES AND EXTRA WORK of the General Conditions shall be submitted to the PROJECT MANAGER, in writing, on the Change Order Cost Quotation Form provided by the PROJECT MANAGER, and in conformance with the requirements of PAYMENT FOR CHANGES AND EXTRA WORK of these General Requirements. Examples of these forms are bound at the end of these General Requirements. The quotation shall be firm for a period of not less than sixty (60) calendar days from the date of receipt of the quotation by the PROJECT MANAGER. Submit its written cost quotation and Time Impact Analysis not later than two (2) weeks after being requested to provide such quotation, unless the PROJECT MANAGER allows more time. Delays in submitting quotations beyond the two (2) weeks set forth herein, which cause a delay in the issuance of a Change Order or a delay to the completion date of the Project, shall not be cause for a claim or a time extension under the Contract.

B. The PROJECT MANAGER's request for quotation on a preliminary change shall not be considered authorization to proceed with the changed Work prior to the issuance of a formal Change Order, unless directed otherwise in writing by the PROJECT MANAGER, nor shall such request constitute justification for a delay to the existing Work or a time extension under the Contract.

27. PAYMENT FOR CHANGES AND EXTRA WORK

Payment to the CONTRACTOR, or credit to the CITY, for any extra, change addition or deletion to the Work under the Contract, or settlement of any claim under the Contract, covered by any Change Order, shall be determined by the methods set forth herein. The PROJECT MANAGER may change the plans and specifications, character of the Work, or quantity of Work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed twenty-five percent (25%) of the Contract price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the CONTRACTOR and the CITY, which shall be executed by a Change Order.

A. LUMP SUM

A total sum for the changed Work may be mutually determined by the PROJECT MANAGER and the CONTRACTOR. The CONTRACTOR shall furnish a breakdown of the costs satisfactory to the PROJECT MANAGER, of the proposed lump sum, in complete accordance with C through J of this Article. Such lump sum costs shall be full and final compensation as described in D of this Article. All cost proposals for lump sum Change Orders shall be presented in accordance with C through J of this Article.

B. COST REIMBURSEMENT (TIME AND MATERIALS) WORK

The costs of all changed Work submitted under the cost reimbursement (time and materials) method shall be formulated in accordance with the provisions of C through J of this Article.

Additionally, if the method or amount of payment cannot be agreed upon prior to the beginning of the Work, the PROJECT MANAGER may issue a unilateral Change Order in the amount determined reasonable by the PROJECT MANAGER for the changed Work and direct the CONTRACTOR to proceed with the changed Work or the PROJECT MANAGER may direct in writing that the Work be done on a cost reimbursement (time and materials) basis, and the CONTRACTOR shall provide all labor, equipment, and materials necessary to complete the Work in a satisfactory manner and within a reasonable period of time. For Work performed, payment shall be made for the documented actual cost, in accordance with the following provisions.

1. Labor, up to and including general foremen, who are directly assigned to the changed Work. Employees identified as superintendents shall not be charged as labor on changed Work, but shall be covered under overhead costs. These costs shall include actual documented payroll costs including wages, payroll taxes as established by law (i.e., FICA, Federal and State Unemployment Taxes), fringe benefits as established by negotiated labor agreements, and any insurance costs (such as Worker's Compensation and General Liability Insurance but shall not include Automobile Liability Insurance, OCIP coverage, or any other insurance costs which are provided for in B.6 below which are currently assessed against labor costs. A detailed breakdown of the subcomponents of labor costs, by all crafts shall be submitted to the PROJECT MANAGER, by the CONTRACTOR and all SUBCONTRACTORS, for approval, as part of the documentation of labor costs, within forty-five (45) days after issuance of the Notice to Proceed. No other subcomponents of labor costs shall be considered, unless approved in writing by the PROJECT MANAGER.

2. Materials - The cost of materials used in performing the changed Work will be the cost, including sales tax, to the purchaser, whether CONTRACTOR, Subcontractor or other forces, from the supplier thereof, except as the following are applicable:

    a. Cash or trade discounts available to the purchaser shall be credited to the CITY notwithstanding the fact that such discounts may not have been taken by the CONTRACTOR.

    b. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost will be deemed to be the price paid to the actual supplier as determined by the PROJECT MANAGER. Markup, except for actual costs incurred in the handling of such materials, will not be allowed.

    c. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on Contract items or the current wholesale price for such materials delivered to the job site, whichever price is lower.

    d. If, in the opinion of the PROJECT MANAGER, the cost of materials is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned, delivered to the job site less cash or trade discount. The CITY reserves the right to furnish materials for the Work and no claim shall be made by the CONTRACTOR for costs and profit on such materials.

    e. For the purposes of this Article, a "Supplier" is defined as any person or persons, firm or business, who supplies materials, of construction and/or permanent equipment, but who does not perform any portion of the Work of the Contract on site, for the CONTRACTOR, except that labor or labor supervision which may be required by some manufacturers as part of their equipment installation for warranty or other purposes.

3. EQUIPMENT COSTS, including ownership, lease or rental costs, as well as operating costs, for individual equipment units whose replacement value is in excess of $1,000. Transportation and set up costs shall be included, but only if the equipment is imported to the worksite solely to perform Work on the changed Work included in the Change Order and the CONTRACTOR can demonstrate that the changed Work cannot or could not be performed economically with equipment already at the site. Equipment costs shall be determined in accordance with the requirements set forth in H of this Article.

4. SUBCONTRACTOR COSTS, provided that such costs are direct costs to the CONTRACTOR for performing the changed Work as set forth in E of this Article.

5. BOND COSTS on the incremental change in the value of the Contract shall be determined and paid for as set forth in I.1 of this Article.

6. INSURANCE COSTS (other than labor insurance or OCIP coverage) shall be determined and paid for as set forth in I.2 of this Article.

C. GENERAL

1. It is the intent of the CITY to settle all Change Orders full and final at the time the Change Order is issued. Therefore, the following paragraph will be incorporated, in writing, on all Change Orders.

> "The compensation (time and cost) set forth in a Change Order comprises the total compensation due the CONTRACTOR, all Subcontractors, and all Suppliers, for the Work or change defined in the Change Order, including impact on unchanged Work. By signing the Change Order, the CONTRACTOR acknowledges and agrees on its behalf and on the behalf of all Subcontractors, and all Suppliers, that the stipulated compensation includes payment for all Work contained in the Change Order, plus all payment for the interruption of schedules, extended field overhead costs, delay, and all impact, ripple effect or cumulative impact on all other Work under this Contract. The signing of the Change Order indicates that the Change Order constitutes full mutual accord and satisfaction for the change, and that the time and/or cost under the Change Order constitutes the total adjustment to price or time or performance owed the CONTRACTOR, all Subcontractors, and all Suppliers as a result of the change. The CONTRACTOR, on behalf of himself, all Subcontractors, and all Suppliers, agrees to waive all rights, without exception or reservation of any kind whatsoever, to file any further claim related to this Change Order. No further claim or request for adjustment of any type, excepting only bond and insurance cost as set forth in these General Requirements of the Contract Documents for any reasonably foreseeable cause shall arise out of or as a result of this Change Order or the impact of this Change Order on the remainder of the Work under this Contract."

2. Costs which shall not be paid in Change Orders under this Contract include, but are not limited to, interest costs of any type; claim preparation or filing costs; legal expenses; the costs of preparing or reviewing proposed Change Orders or Change Order proposals; lost revenue; lost profits; lost income or earnings; rescheduling costs; costs of idled equipment when such equipment is not at the site or has not yet been employed on the Work; lost earnings or interest on unpaid retainage; claims consulting costs; and the costs of corporate officer or staff visiting the site; any compensation due to the fluctuation of foreign currency conversion or exchange rates; loss of other business; changes in taxes or increased tax rates of any kind or any costs identified as unallowable under the provisions of the Federal Acquisition Regulations.

3. Extensions of time shall be based solely upon the effect of delays to the Work as a whole. Extensions of time shall not be granted for delays to the Work, unless the CONTRACTOR can clearly demonstrate, through analysis of the current updated schedule, that the delay to the Work as a whole arose or will arise from causes other than normal weather, beyond the control and

without fault or negligence of the CONTRACTOR, or any Subcontractor, at any tier, and that such delays did or will, in fact, delay the progress of the Work as a whole. The CONTRACTOR shall not be entitled to a time extension unless it submits a Time Impact Analysis which is a calculation of the extent of the delay to the end date of the Work and which shows that the Work has been or will be extended beyond the current Contract completion date. A Time Impact Analysis is an estimating procedure which utilizes the networking techniques (fragnets) and a written analysis of the facts associated with the alleged delay to demonstrate the effect of the alleged delay on the critical path of the schedule. A "fragnet" is defined as a sequence of new activities and/or activity revisions that are proposed to be added to the existing current updated schedule to demonstrate (mathematically and graphically) the influence of the alleged delay on the end date of the Work and shall be the sole method for incorporating delays and impacts into the schedule. The objective of a Time Impact Analysis is to pinpoint, isolate, and quantify all time impact associated with a specific issue and determine its time relationship to past or current delays. Time extensions shall not be allowed for delays to parts of the Work that are not on the critical path of the currently approved monthly updated Project Schedule. Time extensions shall not be granted, nor delay damages of any kind whatsoever paid to the CONTRACTOR, until all available float, slack, or contingency time on the Project is used and the end date of the Work is moved beyond the current, adjusted Contract completion date.

4. The CONTRACTOR'S Cost Breakdowns submitted under the lump sum method described in paragraph A and its Change Order Quotations submitted under the cost reimbursement (time and materials) method described in paragraph B (including without limitation requests for cost reimbursement for delay, disruption, hindrance and interference associated with extras, changes, additions or deletions) shall be itemized in a manner that, with mathematical certainty and without reliance upon probabilities or inferences, segregates the direct, actual reimbursable costs associated with each individual extra, change, addition, deletion and (on an event-by-event basis) each individual delay or disruption event. Such Change Order Cost Quotations shall not be based, in whole or in part, upon any methodology (such as "total cost" or "modified total cost" methodologies) that purports to calculate the CONTRACTOR'S additional costs of performance of the extra, change, addition or deletion (including without limitation the additional costs of delay, disruption or other impact) based on the difference between CONTRACTOR'S total actual Project or line item costs (with or without fee) and its original bid estimate for the Project or any original bid estimate line item. In connection with the foregoing, CONTRACTOR represents and warrants that it has the ability to generate and maintain complete and accurate cost accounting records that will reflect:

   a. The actual costs incurred or saved for each individual item of extra work, change, addition, deletion (including without limitation any costs of associated delay, disruption, interference, hindrance and the cumulative impact of each extra, change, addition, deletion on other parts of the Work); and,

   b. On an event-by-event basis, the effect of each delay or disruption that forms the basis of each request for extension of time, regardless of their scope, number, complexity, cumulative effect, or time of issuance or occurrence.

5. Except as provided in Article 51, COMPENSATION FOR DELAY, DISRUPTION, UNANTICIPATED OVERHEAD of the General Conditions, CONTRACTOR shall have no right to recovery of any compensation, costs, expenses or damages resulting from delay, disruption, interference, or hindrance in the performance of the Work (including without limitation interruption of schedules, excess or extraordinary extended field and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work).

6. CONTRACTOR waives any claim or rights and remedies based on abandonment, quantum merit, rescission or other similar legal theory by reason of any of the following circumstances, which the CONTRACTOR acknowledges and agrees are within the reasonable contemplation of the parties:

a. Extras, changes, additions and deletions to the Work after execution of the CONTRACT and issued from time to time throughout the period of construction, regardless of their scope, number, cumulative value, or complexity, to correct errors, omissions, conflicts, and ambiguities in the Contract Documents, or to implement discretionary changes the scope of Work requested by the CITY;

b. The issuance and performance of extras, changes, additions and deletions in a manner that is not in sequence with the as-built or as-planned progress of the Work;

c. Changes due to Differing Site Conditions;

d. Suspensions of the Work or parts thereof, or limitations on access to portions or all of the Work, for the convenience of CITY or in the interests of the Project;

e. Delay or disruption to the Work due to failure of the CITY, PROJECT MANAGER or INSPECTOR to timely perform any contractual obligation.

D. OVERHEAD COSTS

To the costs under Paragraphs C.1., C.2., and C.3., above, an added fixed fee to provide compensation for all overhead costs shall be allowed as established in Paragraph E.1 below. This overhead rate is not applicable to the costs under Paragraphs C.4. through C.6. above.

The overhead rates determined in Paragraphs 1 and 2 below shall be applied to all additive and deductive Change Orders, of this Article.

1. GENERAL AND ADMINISTRATIVE OVERHEAD RATE:

a. An allowance of eight percent (8%) for overhead costs will be allowed to the CONTRACTOR, only when CONTRACTOR uses its own organization to perform a part of the Work under the Change Order based upon the value of labor, material and construction equipment required to accomplish said part of the change Paragraphs C.1., C.2., and C.3.

b. An allowance of twelve percent (12%) for overhead costs will be allowed to the Subcontractors (at any tier), only when Subcontractors use their own organization to perform a part of the Work under the Change Order, based upon the value of labor, material, and construction equipment required to accomplish said part of the change Paragraphs C.1., C.2.,and C.3.

c. Overhead percentages shall be considered to include all insurance costs other than specifically mentioned in this Article, all field and office supervisors and assistants, all onsite project administration, security costs, the cost of small tools and consumables, incidental job burdens, and all general home office expenses and no separate allowance will be made therefore. Assistants to field and office supervisors include all clerical, stenographic, and general office help. Incidental job burdens include, but are not necessarily limited to, office equipment and supplies, temporary toilets, telephone and conformance to OSHA requirements. Items such as, but not necessarily limited to, review and coordination, estimating, PROJECT MANAGER, scheduling, and expediting relative to Change Orders, and updating and furnishing Record Drawings to incorporate changes, are associated with field and office supervision and are considered to be included in the CONTRACTOR's overhead percentage set forth herein.

d. For those Change Orders with both additive and deductive costs, the overhead rate shall be determined by the net amount of the additive and deductive work.

E. SUBCONTRACTOR COSTS

1. Where Work under the Change Order is performed in whole or in part by a Subcontractor, at any tier, the cost of the Change Order shall include the cost to the Subcontractor. Subcontractor's

costs shall be presented in strict accordance with A., B., and C., above, and D. through J. as applicable.

2. An additional fixed fee of six percent (6%) based upon the sum of the costs of all Subcontractors, at any tier, involved in the Work of the Change Order, shall be allowed to the CONTRACTOR for profit and General and Administrative Overhead Costs. An additional fixed fee of six percent (6%) shall be allowed to first tier Subcontractors for profit and General and Administrative Overhead costs for any Work involved in the Change Order that is performed by Sub-subcontractors. No additional fixed fee shall be allowed for Change Order Work performed by Subcontractors to Sub-subcontractors, at any tier.

F. PROFIT

To the costs of C.1., C.2., and C.3., above, plus applicable overhead costs from D.1.a. or D.2.b., if a SUBCONTRACTOR at any tier above, an added fixed fee for Profit shall be allowed as established herein.

1. An allowance of ten percent (10%) for Profit for the party performing the Work under the Change Order, shall be included on all Change Orders that are negotiated full and final in advance of any changed Work being performed.

2. An allowance of five percent (5%) for Profit for the party performing the Work under the Change Order shall be included on all Change Orders where any portion of the Work is performed before the Change Order is executed full and final by both the PROJECT MANAGER and the CONTRACTOR.

3. No added fixed fee for Profit shall be allowed for any cost other than those costs under C.1., C.2., and C.3., of this Article, if Subcontractor at any tier above. No fixed fee for profit shall be allowed on the costs of C.4., C.5., C.6., or F of this Article.

4. On Change Orders with both additive and deductive cost components, the profit allowance on net additive Change Orders shall be based on the Change Order amount after overhead rates have been added. The profit allowance shall be as set forth in Paragraphs 1 and 2 above as applicable. No profit allowance shall be included for net deductive Change Orders.

G. CITY FURNISHED MATERIALS AND EQUIPMENT

The CITY reserves the right to furnish such materials and equipment as it deems expedient, and the CONTRACTOR shall have no claim for profit or overhead on the cost of such materials and equipment.

H. EQUIPMENT COSTS

Full rental costs for rental or leased equipment shall not exceed the rates as set forth in the Rental Rate Blue Book (the Blue Book) published by Dataquest, Inc., Palo Alto, California, as adjusted to the regional area of the Work under this Contract. Owned equipment costs shall not exceed the rates listed in the Cost Reference Guide (the CRG) for Construction Equipment, published by Dataquest, Inc., Palo Alto, California. The most recent published edition in effect at the commencement of actual equipment use shall be used.

1. RENTED OR LEASED EQUIPMENT

a. For equipment rented or leased (including lease with purchase option) in arm's length transactions from outside vendors, the CONTRACTOR shall be paid the actual invoiced, rented or leased rates provided that the invoiced lease or rental rates do not exceed the rates set forth in the Blue Book. Arm's length rental or lease transactions are those in which the firm involved in rental or lease of such equipment is not associated with, owned by, have common management, directorship, facilities, or stockholders with the firm renting the equipment. Submittal by a CONTRACTOR of a rental or leased invoice from the lessor will be prima facie proof of compliance with the above. However, such invoices are not

conclusive proof; if questioned, the burden of proof remains with the CONTRACTOR. In no event shall the leased equipment rate billed to the CITY be at rates exceeding those prescribed in the following table:

Actual Usage (Change Order & Contract Work Combined	Blue Book Payment Category
Less than 8 hours	Hourly Rate
8 or more hours but less than 7 days	Daily Rate
7 or more days but less than 30 days	Weekly Rate
30 calendar days or more	Monthly Rate

b. When in Use:

Actual equipment use time documented by the INSPECTOR or PROJECT MANAGER shall be the basis that the equipment was utilized on the changed Work and paid for under the Change Order. In addition to the lease or rental rate, equipment operating costs shall not exceed the estimated hourly operating rate as set forth in the Blue Book. The hours of operation shall be based upon actual equipment usage on the changed Work as recorded by the INSPECTOR or PROJECT MANAGER. For multiple shift Work sequences, the allowable equipment rate shall not exceed fifty percent (50%) of the base rate, for second or third shifts.

c. When Idle:

Idle equipment is equipment on site and necessary to perform the Work under the change but not in actual use due solely to the impact of the changed Work. Equipment operating costs due to idle time, documented by the INSPECTOR or PROJECT MANAGER, shall be paid at the rate determined in Paragraph I above. Idle time shall include a reasonable time allowance to and from the Project site.

2. OWNED AND OTHER EQUIPMENT

a. Equipment rates for owned equipment or equipment provided in other than arm's length transactions will not exceed the total hourly costs as set forth in the Cost Reference Guide. Adjustments to the listed rates provided for under the section of the Cost Reference entitled "Cost and Production Formulas" shall not be allowed. Except as noted herein below, this equipment hourly rate plus the estimated operating cost per hour from the Cost Reference Guide will be paid for each hour the equipment actually performs Work on the changed Work. Daily records listing the equipment units and their respective operators, identification code, and actual usage on the Work under the Change Order, as certified at the end of each Work day (or work shift if the Work is being performed in multiple work shift sequence) by the INSPECTOR or PROJECT MANAGER shall be the record upon which actual equipment use shall be based. For multiple shift Work sequences, the allowable equipment rate shall not exceed the hourly depreciation and operating costs listed in the Cost Reference Guide, for second or third shifts. It is agreed that this rate shall represent payment in full for all the CONTRACTOR's direct costs.

b. When Idle:

Equipment necessary to be on the site to complete the Work, but not in actual use due solely to the impact of the changed Work, shall not exceed fifty percent (50%) of the hourly rates identified in the "Ownership" column under the heading "Hourly Operating and Overhaul Expenses" set forth in the Cost Reference Guide, provided that its presence and necessity on the site has been documented by the INSPECTOR or PROJECT MANAGER,

and further provided that the equipment was idled solely by actions of the CITY. Idle equipment time will only be paid as a function of delays specifically directed or caused by the CITY's actions. In no event shall the idle time claimed in a day for a particular piece of equipment exceed the normal Work schedule established for the Project - usually eight (8) hours per day or forty (40) hours per week, and excluding Saturdays, Sundays, and holidays. For multiple shift Work sequence, the allowable idle equipment rate shall not exceed fifty percent (50%) of the hourly depreciation costs listed in the Cost Reference Guide, for second or third shifts. It is agreed that this rate shall represent payment in full for all the CONTRACTOR's direct costs.

3. EQUIPMENT HAULAGE AND SET UP COSTS

   a. Documented and actual equipment haulage and set up costs shall be paid for, if applicable as set forth in C of this Article.

4. OTHER EQUIPMENT COST GUIDES

   a. In the event that a piece of equipment used on a Change Order is not listed in the Blue Book or the CRG, costs may be derived from the Associated General CONTRACTOR's of America Equipment Ownership Guide, the Associated Equipment Dealers Guide, or the Equipment Rate Guide published by the U.S. Army Corps of PROJECT MANAGERs as adjusted appropriately for the type of Work and use and the regional area of the Work under this Contract.

I. BONDS AND INSURANCE COSTS

1. Bond premium adjustment, consequent upon the Change Orders issued by the PROJECT MANAGER, shall be paid at the time of completion of the Work and will not be included in individual Change Orders. Additional bond costs on the incremental value of all Change Orders issued under the Contract shall be paid for through issuance of a separate Change Order upon receipt, by the PROJECT MANAGER, or a fully paid invoice from the CONTRACTOR's and Subcontractor's sureties. No allowances for overhead or profit shall be included in such separate Change Order.

2. Insurance costs, other than insurance assessed on labor costs, consequent upon the Change Orders issued by the PROJECT MANAGER, shall be paid for by the PROJECT MANAGER at the time of completion of the Work and will not be included in individual Change Orders. Additional insurance costs on the incremental value of all Change Orders issued under the Contract shall be paid through issuance of a separate Change Order upon receipt of a fully paid invoice from the CONTRACTOR's and Subcontractor's insurance carriers. On Contracts where the duration exceeds 365 calendar days from Notice to Proceed, the CONTRACTOR and its Subcontractors will be allowed to submit such fully paid invoices at the end of every year after issuance of the Notice to Proceed, and again at the end of the Project.

J. RECORDS

1. The CONTRACTOR's records shall make clear the distinction between the direct costs of Work paid for under the Change Order and the costs of the base scope Work under the Contract. Furnish the INSPECTOR with daily report sheets in duplicate of each day's cost reimbursement Work no later than the working day following execution of said Work. The daily report sheets shall itemize the materials and equipment used in the Work. The daily report sheets shall provide for identification and classification of workers; the hourly rates of pay and hours worked; and the size, type, identification number, and hours operated for each piece of equipment. The Daily Report sheets shall itemize the materials used in the Work.

2. Substantiate material charges by copies of vendor's invoices. Submit such invoices with the daily report sheets or, if not available at that time, submit with subsequent daily report sheets. Sign daily

report sheets by the CONTRACTOR or his authorized agent and the INSPECTOR at the time of submittal.

3. On a weekly basis submit to the PROJECT MANAGER an approximate accounting of the Contract expended on the cost reimbursement Work to date and an estimate of the Impact to the time of performance of Work.

28. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

A. If the PROJECT MANAGER determines that any price, including profit or fee, negotiated in connection with any Change Order under this contract, or any cost reimbursable under this Contract, was increased because:

1. The CONTRACTOR furnished cost or pricing data which was not accurate, complete, and current as certified in the CONTRACTOR's Certificate of Current cost or Pricing Data;

2. A Subcontractor or prospective Subcontractor furnished cost or pricing data was submitted in support of a subcontract cost estimate furnished by the CONTRACTOR but which was not accurate, complete, and current as of the date certified in the CONTRACTOR's Certificate of Current Cost or Pricing Data.

3. The CONTRACTOR or a Subcontractor or prospective Subcontractor, at any tier, furnished any data not within paragraph 1 or 2 above, which was not accurate as submitted;

then price shall be reduced accordingly and the Contract shall be modified in writing as may be necessary to reflect such reduction. However, any reduction in the Contract price due to defective subcontract data of a perspective Subcontractor, when the subcontract was not subsequently awarded to such Subcontractor, will be limited to the amount (plus applicable overhead and profit allowances) by which the actual subcontract or actual cost to the CONTRACTOR if there was no Subcontract, was less than the prospective subcontract cost estimate submitted by the CONTRACTOR; provided that the actual subcontract price was not affected by defective cost or pricing data.

B. The following certification from the CONTRACTOR is required to be provided on all Change Order quotations or requests for adjustment in excess of $10,000.

1. CERTIFICATION OF CURRENT COST AND PRICING DATA.

2. This is to certify that, to the best of my knowledge and belief, cost or pricing data submitted in writing, or specifically identified in writing if actual submission of the data is impracticable, to the CITY in support of [CONTRACTOR is to insert appropriate identification such as Change Order quotation, proposal quotation, price adjustment, etc.] are accurate, complete, and current as of [CONTRACTOR to insert date].

CONTRACT NO.: _____

PROPOSED CHANGE ORDER NO.: _____

FIRM: _____

NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

29. PAYMENT FOR MATERIALS OR EQUIPMENT DELIVERED AND STORED ON THE JOB

A. Partial payment for materials or equipment delivered to the worksite and stored shall be subject to the following conditions:

1. Payment will not be made for any materials or equipment unless each individual piece of the material or equipment becomes a permanent part of the Work and has a value of more than $5,000.

2. The material or equipment is required by the specifications, and is specifically manufactured for the Project and could not readily be utilized or diverted to another job.

3. The CONTRACTOR shall provide secure storage facilities as required in STORAGE OF MATERIALS AND EQUIPMENT of these General Requirements.

4. No payment will be made for living or perishable Plant material, or for degradable materials such as rock, sand, cement, or for reinforcing steel, miscellaneous piping, off the shelf and catalog items, and similar items of construction, until they are incorporated into the Work.

5. The payment for the materials or equipment shall not exceed ninety-five percent (95%) of the invoice cost. The amount paid shall not exceed the total amount of the bid item less an amount estimated for installation.

6. Include cost loaded activities for the materials and equipment, for which payment will be requested, in the Schedule of Values. The CONTRACTOR shall provide all documentation necessary to establish the cost of the materials or equipment.

7. Suppliers, fabricators, or manufacturers who intend to furnish materials or equipment to the CITY must file a notice with the CITY in accordance with the State of California lien laws.

8. Each supplier, fabricator or manufacturer shall file a list, with the INSPECTOR, indicating the materials or equipment to be furnished to the Project. They shall also provide a notarized declaration from their company indicating the employees authorized to sign an unconditional release for the company. The persons signing the declaration and the unconditional release shall be identified by name and title.

9. Each request for payment shall include a notarized Unconditional Release, which conforms to the California Civil Code. The release shall be signed by an authorized employee identified in the corporate declaration. The request shall include the suppliers invoice for the materials or equipment.

10. Absorb costs incurred to meet the requirements of this Article without modification to the Contract amount.

30. PAYMENT FOR MATERIALS OR EQUIPMENT STORED OFF THE JOBSITE

A. Partial payment for materials or equipment stored off the jobsite shall be subject to the following conditions:

1. Payment will not be made for any materials or equipment unless each individual piece of the material or equipment becomes a permanent part of the Work and has a value of more than $5,000, unless otherwise approved by the city.

2. The materials or equipment is required by the specifications, and is specifically manufactured for the Project and could not readily be utilized or diverted to another job.

3. No payment will be made for living or perishable Plant material, or for degradable materials such as rock, sand, cement, or for reinforcing steel, miscellaneous piping, off the shelf and catalog items, or similar items, until they are incorporated into the Work.

4. Payment for the materials or equipment stored shall not exceed sixty percent (60%) of the invoice

cost of the materials or equipment. Percent of the invoice paid shall be at the discretion of the CITY. The amount paid shall not exceed the total amount of the bid item less an amount estimated for installation.

5. Include cost loaded activities for the materials and equipment, for which payment will be requested, in the Schedule of Values. Provide documentation necessary to establish the cost of the materials or equipment.

6. Suppliers, fabricators, or manufacturers who intend to furnish materials or equipment to the CITY must file a notice with the CITY in accordance with the State of California lien laws.

7. Each supplier, fabricator or manufacturer shall file a list, with the INSPECTOR, indicating the materials or equipment to be furnished to the Project. They shall also provide a notarized declaration from their company indicating the employees authorized to sign an unconditional release for the company. The persons signing the declaration and the unconditional release shall be identified by name and title.

8. Each request for payment shall include a notarized Unconditional Release, which conforms to the California Civil Code. The release shall be signed by an authorized employee identified in the corporate declaration. The request shall include the suppliers invoice for the materials or equipment.

9. Store the materials and equipment as required in STORAGE OF MATERIALS AND EQUIPMENT of these General Requirements, in a bonded warehouse or facility approved by the INSPECTOR. The storage site shall be located within 50 miles of the geographic limits of the CITY. The materials and equipment shall be physically segregated from all other materials or equipment within the facility and shall be identified as being the "PROPERTY OF THE CITY OF LOS ANGELES". Exercise measures necessary to ensure preservation of the quality, quantity, and fitness of such materials or equipment and perform the manufacturers recommended maintenance of the materials or equipment. Inspect the materials and equipment, and submit a monthly written report to the INSPECTOR listing the equipment stored, results of their inspection, and the maintenance performed.

10. Grant the INSPECTOR and the PROJECT MANAGER access to the storage facility at any time and assist the INSPECTOR and the PROJECT MANAGER in conducting a full view, piece by piece, inventory of all such material or equipment.

11. Provide additional insurance necessary to insure the materials or equipment against loss of damage. The insurance provided shall be provided as stated in Article 37, INSURANCE of the General Conditions. The insurance shall cover the material or equipment, while stored at the approved site, while in transit to the project site, while being off-loaded at the site and until the material or equipment is incorporated into the Work and the Contract is accepted by the BOARD.

12. Be responsible for damage to, defects therein, misfabrication thereof, or loss of the materials or equipment.

13. Be responsible for any resulting Project delays or consequential damages as if the CONTRACTOR were the owner of the material or equipment until it is incorporated in the Work and accepted by the CITY.

14. Absorb any and all cost incurred to meet the requirements of this Article without modification in the Contract amount.

15. Present the storage arrangements in writing and sign a Security Agreement, which shall be submitted to the INSPECTOR for approval by the CITY ATTORNEY. This agreement shall set forth the terms of ownership, storage and insurance necessary to insure the material or equipment against damage or loss.

31. PAYMENT FOR PERMITS

See PAYMENT FOR MOBILIZATION of these General Requirements.

32. AUDIT AND ACCESS TO RECORDS

A. Maintain books, records, documents and other evidence directly pertinent to performance of Work under this Contract in accordance with generally accepted accounting principles and practices consistently applied. Also maintain the financial information and data used by the CONTRACTOR in the preparation or support of cost submissions required for this Contract, or any Modifications or claims, and a copy of the cost summary submitted to the CITY. The CITY authorized representatives shall have access, at all times during normal business hours, to such books, records, documents and other evidence for the purpose of inspection, audit and copying. Provide proper facilities for such access and inspection.

B. Agree to make A through G of this Article applicable to this Contract and Modifications or claims affecting the Contract price. Agree to include A through G of this Article in all his contracts and all tier Subcontracts in excess of $5,000, and to make A through G of this Article applicable to Modifications and claims related to Project performance.

C. Audits conducted under this Article shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit agency.

D. Agree to the disclosure of information and reports resulting from access to records under A and B of this Article, to the CITY and affected agencies.

E. Records under A and B of this Article shall be maintained and made available during performance of Work under this Contract until final payment, or until settlement of all disputes, claims, or litigation, whichever occurs later. In addition, those records which relate to any portion of this Contract, to any Modification, to any dispute, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until final payment or until final resolution of such dispute, litigation, claim or exception, whichever occurs later.

F. This right of access Article applies to financial records pertaining to this Contract and all Contract Modifications. In addition this right of access applies to all records pertaining to all contracts, contract modifications, and contract amendments:

1. To the extent the records pertain directly to Contract performance;
2. If there is any indication that fraud, gross abuse or corrupt practices may be involved; or
3. If the Contract is terminated for default or for convenience.

G. Access to records is not limited to the required retention periods. The authorized representatives designated in A of this Article shall have access to records at any reasonable time for as long as the records are maintained.

H. Provided that CITY has made demand for access or audit pursuant to this Article, CONTRACTOR's compliance with provisions A through G of this Article shall be a condition precedent to maintenance of any legal action or proceeding by the CONTRACTOR against the CITY and to CONTRACTOR's right to Progress or Final Payment. Without limitation to the foregoing or to any other provisions for withholding set forth in the Contract Documents, CITY shall have the right, in its sole discretion and in addition to any right of withholding of retention, to further withhold from any payment to CONTRACTOR a sum of up to ten percent (10%) of the total amount set forth in CONTRACTOR's current, unpaid Application(s) for Payment, until CONTRACTOR has complied with any outstanding and unsatisfied request by CITY for audits under this Article. Upon CONTRACTOR's compliance with this Article, any monies withheld pursuant to this Paragraph solely due to CONTRACTOR's failure to permit an audit requested by CITY shall be released to CONTRACTOR.

I. CONTRACTOR hereby consents and agrees that any failure by CONTRACTOR to provide access to

records as provided in A through G of this Article shall be specifically enforceable by issuance of a preliminary and/or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court, without the necessity of oral testimony, to compel CONTRACTOR to permit access and inspection of the records or to require delivery of the records to CITY for inspection.

MISCELLANEOUS

33. INTERFACE/COORDINATION REQUIREMENTS

A. Vehicular and pedestrian traffic adjacent to the laydown area and/or within the jobsite must be maintained. If an existing street in the CONTRACTOR's work area is to be demolished or obstructed, the CONTRACTOR shall be responsible for providing access through or around the effected area, including signs, barricades, and lights, as approved by the PROJECT MANAGER and any local agencies having jurisdiction over any public access areas. The CONTRACTOR shall follow WATCH standards and City of Los Angeles Department of Transportation Worksite Traffic Control Plans for all traffic, including a minimum traffic lane dimensions for vehicles and pedestrians.

B. The CONTRACTOR shall not park any vehicles, including concrete, hauling and delivery trucks, in any street at any time unless approved by the PROJECT MANAGER. Access must be maintained at all times for emergencies, sampling, equipment operations, maintenance and like items.

C. Before altering any vehicular or pedestrian access, the CONTRACTOR shall notify the PROJECT MANAGER thirty (30) days in advance on forms provided by the PROJECT MANAGER. The CONTRACTOR shall then request the alteration on forms provided by the PROJECT MANAGER. Requests shall include reasons for the alteration, times, boundary limits, special safety measures, proposed traffic rerouting with widths of such route, and a map detailing the above. Such requests shall be submitted to the PROJECT MANAGER not less than fifteen (15) days before the requested date of the access alteration. If any of the information changes, an additional fifteen (15) days may be required after the changes are brought to the attention of the PROJECT MANAGER. Approval when granted, will always be conditional. Final approval of the request, including date and time, will be given three (3) days in advance. The CITY retains the right to ticket and impound vehicles blocking traffic.

34. PROGRESS PHOTOGRAPHS

A. As directed by the PROJECT MANAGER, take a minimum of 4 views of each Project worksite location, at 14 days intervals during the entire period of Contract Work. Take the first photographs before start of construction operations at the jobsite. Take the final photographs when all Contract Work has been completed and accepted by the CITY regardless of time intervals since previous photographs were taken. View locations shall be as directed by the PROJECT MANAGER.

B. Provide 4, 8-inch by 10-inch color prints of each photograph on double weight glossy paper with each monthly progress report. Clearly label each print with the name of the job, view location, date of exposure and CONTRACTOR's name. Photographs and prints shall be of professional quality.

C. Submittal of progress photographs shall be a condition precedent to the making of the monthly payments.

35. COMMUNITY RELATIONS

A. The contractor shall cooperate with the City in conducting a public relations program for the project. The program will provide information to address concerns and complaints and to promote a positive project image. Contractor cooperation shall include the following:

1. The Project Manager shall attend public meetings, when requested by the PROJECT MANAGER.

2. Provide safe access for on-site community meetings and tours, on average twice per month per work site. Tours will be conducted by the PROJECT MANAGER and will be coordinated with the Contractor to limit interference with the work.

3. Do not provide any information directly to the public or news media without approval of the

PROJECT MANAGER.

36. PROJECT CLOSEOUT

A. CLOSEOUT TIMETABLE

The CONTRACTOR shall establish dates for equipment testing and acceptance periods (as required under the Contract). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the CITY, the PROJECT MANAGER, and their authorized representatives sufficient time to schedule attendance at such activities.

B. FINAL SUBMITTALS

1. The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the PROJECT MANAGER.

   a. Written guarantees, where required.

   b. Technical manuals and instructions.

   c. Maintenance stock items; spare parts; special tools.

   d. Completed record drawings.

   e. Certificates of inspection and acceptance by local governing agencies having jurisdiction.

   f. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

C. FINAL CLEANUP

The CONTRACTOR shall perform all tasks specified in REMOVAL, CLEANUP, AND DEMOBILIZATION of these General Requirements.

D. MAINTENANCE AND GUARANTEE

1. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the PROJECT MANAGER. If the CONTRACTOR fails to make such repairs or replacements promptly, the PROJECT MANAGER reserves the right to do the work and the CONTRACTOR and his surety shall be liable to the CITY for the cost thereof.

2. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work.

E. BOND

1. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Article 31 and Article 37 (Paragraph K) of the General Conditions, Article 24 of these General Requirements, Paragraph D of this Article.

ATTACHMENTS

ATTACHMENT TO GENERAL REQUIREMENTS ARTICLE 27

CHANGE ORDER COST QUOTATION FORM **DATE___/___/20_____**

Estimate Summary for Prime CONTRACTOR Total Costs

W.O. _____C.O._____CONTRACT #_____

ESTIMATOR_____P.E._____

	LABOR PER General Requirements 27		
	Journeyman _____MH Supervision _____MH	**$**	
	2) MATERIALS (and Other Taxables) Including Sales Tax	**$**	
	3) EQUIPMENT(Rented, Leased, and/or OWNED) Blue Book and/or CRG, including Sales Tax if applicable	**$**	
SUBTOTAL	**(A) _____1) + 2) + 3)**		**$**
	4) G and A OH per General Requirements 27 Show calculations on separate sheet	**$**	
SUBTOTAL	**(B)_____(A) + 4)**		**$**
	5) PROFIT_____% x Line (B) Per General Requirements 27	**$**	
SUBTOTAL	**(C)_____(B) + 5)**		**$**
	6) SUBCONTRACTS (All Subcontractors)	**$**	
	7) FIXED FEE FOR ALL SUBS 6% Per General Requirements 27	**$**	
SUBTOTAL	**(D)_____(C + 6) + 7)**		**$**
	8) FIELD OFFICE OVERHEAD: $_____X_____DAYS Exclude if not required	**$**	
	9) SCHEDULING COSTS ($200 Max.) Exclude if not required	**$**	
SUBTOTAL	**(E)_____(D) + 8) + 9)**		**$**
	10) IMPACT COST, per General Requirements 27 Show calculations on separate sheet	**$**	
GRAND TOTAL	**_____(E) +10)**		**$**

CHANGE ORDER COST QUOTATION FORM

Estimate Summary for Prime CONTRACTOR Total Costs **DATE____/____/20_____**

W.O._____C.O._____CONTRACT #_____

ESTIMATOR_____P.E._____

		LABOR PER General Requirements 27 **Journeyman Supervision** **_____MH _____MH**	**$**	
	2)	**MATERIALS (and Other Taxables)** **Including Sales Tax**	**$**	
	3)	**EQUIPMENT(Rented, Leased, and/or OWNED)** **Blue Book and/or CRG, including Sales Tax if applicable**	**$**	
SUBTOTAL	**(A)**	**_____1) + 2) + 3)**		**$**
	4)	**G and A OH per General Requirements 27** **Show calculations on separate sheet**	**$**	
SUBTOTAL	**(B)**	**_____(A) + 4)**		**$**
	5)	**PROFIT_____% x Line (B)** **Per General Requirements 27**	**$**	
SUBTOTAL	**(C)**	**_____(B) + 5)**		**$**
	6)	**SUBCONTRACTS (ALL SUB-SUBS)**	**$**	
	7)	**FIXED FEE FOR ALL SUB-SUBS 6%** **Per General Requirements 27**	**$**	
SUBTOTAL	**(D)**	**_____(C + 6) + 7)**		**$**
	8)	**FIELD OFFICE OVERHEAD:** **$_____X_____DAYS** **Exclude if not required**	**$**	
SUBTOTAL	**(E)**	**_____(D) + 8)**		**$**
		IMPACT COST, per General Requirements 27 **Show calculations on separate sheet**	**$**	
GRAND TOTAL		**FOR SUBCONTRACTOR (E) + 9)** **To Line 6) of Prime CONTRACTOR'S Summary**		**$**

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

III. SUPPLEMENTARY GENERAL REQUIREMENTS

Department of Public Works
Bureau of Engineering
Architectural Division

ENGINEERING
CITY OF LOS ANGELES

SUPPLEMENTARY GENERAL REQUIREMENTS

1.1 GENERAL SCOPE OF WORK:

A. Work in this Contract: All labor, material, and equipment necessary for construction of the **Cesar Chavez Recreation Complex Phase III C Also Known As: Sheldon Arleta Park Phase III C** as noted on the Contract Drawings and in these Specifications (Project Manual) and all other Contract Documents including but not limited to the GENERAL CONDITIONS, GENERAL REQUIREMENTS, City of Los Angeles Department of Building and Safety Soils Report Approval or Correction Letters and Geotechnical Engineering Reports.

B. Contractor shall coordinate with other city vendors who may be performing other work at the site during construction, including but not limited to:
   - DWP water and electrical meter installation and service connections.
   - Sewer and storm drain connection.

C. Contractor shall coordinate with the Department of Building & Safety to schedule and obtain all necessary plan checks, inspections and approvals and all related fees for the following:

D. Contractor will provide a warranty for the minimum of one year on all equipment and workmanship from the date of issuance of the Building and Safety Certificate of Occupancy.

E. Contractor shall provide temporary construction fence at work areas.

F. Contractor to provide equipment and staff for the groundbreaking ceremony.

G. Contractor will only have the identified lots as construction area. Any additional space required for the construction will be the contractor responsibility.

H. Contractor shall install the Department of Recreation and Parks construction signage at the site during construction. Details of the sign will be provided in an addendum.

1.2 CONTRACT PLANS: In addition to provisions noted in the GENERAL CONDITIONS and the GENERAL REQUIREMENTS.

1.3 The following are in addition to GENERAL CONDITIONS and GENERAL REQUIREMENTS:
   - This Supplementary General Requirements
   - Soils Report Approval Letter from the Department of Building and Safety for this project.
   - All Geotechnical and Supplementary Geotechnical Engineering Reports, Geotechnical Engineering Division for this project.
   - Project Specifications. See specifications set.
   - Construction Plan Sheets. See plans set.

1.4 METHANE MITIGATION ENGINEER: The contractor(s) shall engage the services of the methane mitigation design/engineering firm (METHANE MITIGATION ENGINEER) with adequate qualifications and experience in design and engineering methane mitigation system to develop a methane mitigation design for the pre-fabricated restroom/office building including complete plans, details, engineering, and observation services. In order for a bid to be considered eligible for this project, the METHANE MITIGATION ENGINEER must have completed at least three (3) methane mitigation systems in the past ten (10) years. The facility must be currently in operation. The bidder must complete and submit with the bid the "METHANE MITIGATION DESIGN/ENGINEERING SERVICE MINIMUM QUALIFICATIONS" forms (pages GR-S3 through GR-S4), attached herewith. **Failure to submit the completed said forms with the bid or failure to meet the minimum qualifications of the METHANE MITIGATION ENGINEER will result in the bid being non-responsive**.

1.5 QUALIFIED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DEVELOPER (QSD) and QUALIFIED SWPPP PRACTITIONER (QSP): All qualifying bidding contractors shall have under their employment or contract the QSD that will be responsible for preparing, amending, and certifying the SWPPP for this project, and the QSP that will be responsible for performing the monitoring of the storm water and non-storm water visual observations, sampling, and analysis of the Best Management Practices (BMPs) required by the State of California Water Resources Control Board General Permit and the Section 01571 of the specifications. This form (page GR-S5) must provide valid names and certification numbers for the QSD and QSP at the time of bid to meet the minimum qualification for this project; however, submission of the form (pages GR-S5) does not in and of itself constitute qualification. **Failure to submit the completed said form with the bid will result in the bid being non-responsive**.

1.6 GENERAL CONDITIONS ARTICLE 12 - LENGTH OF WORKDAY AND WORK WEEK:
The second paragraph is hereby amended to read:

"A working day shall be Monday through **Saturday**, and work shall be between 7:00 a.m. and 4:00 p.m., unless otherwise approved by the PROJECT MANAGER or the BOARD OF RECREATION AND PARK COMMISSIONERS or revised by CITY Ordinance."

1.7 STORMWATER POLLUTION CONTROL MEASURES FOR CONSTRUCTION ACTIVITIES (APPENDIX A):
This project involves construction activity on more than one acre of disturbed soil. The Contractor must comply with the requirements of Appendix A – Stormwater Pollution Control Measures for Construction Activities, as applicable to sites of more than one acre of disturbed soil.

1.8 The following supplement modifies the "General Requirements"
Add Section 01571 "Stormwater Pollution Control Measures for Construction Activities" (Appendix A)

METHANE MITIGATION DESIGN/ENGINEERING SERVICE MINIMUM QUALIFICATIONS

FAILURE TO SUBMIT THIS FORM WITH THE BID OR FAILURE TO MEET THE MINIMUM QUALIFICATIONS OF THE DESIGN/ENGINEERING SERVICE WILL RESULT IN THE BID BEING NON-RESPONSIVE

The intent of this form is to solicit information to confirm if the methane mitigation design/engineering firm (METHANE MITIGATION ENGINEER) meets the minimum qualifications as a METHANE MITIGATION ENGINEER for the Cesar Chavez Recreation Complex Phase III C Also Known As: Sheldon Arleta Park Phase III C project. The METHANE MITIGATION ENGINEER who will actually design and engineer the methane mitigation system in this project must be experienced and have designed/engineered at least three (3) methane mitigation system in California in the past ten (10) years and must be able to design a methane mitigation system that meets all the current codes. The methane mitigation system must be new construction and be currently in operation. The Bidder must complete and submit with the bid the "Methane Mitigation System Design/Engineering Service Minimum Qualifications". The forms (pages GR-S3 through GR-S4) helps determine if the METHANE MITIGATION ENGINEER meets the minimum qualification for this project; however, submission of the forms (pages GR-S3 through GR-S4) does not in and of itself constitute qualification. The Bidder must submit information below on projects that the METHANE MITIGATION ENGINEER has completed.

Name of Methane Mitigation Design/Engineering Firm

_____

PROJECT NO. 1

A. Project Information

1. **Project Name and Address** _____

2. **Project Description** _____
   (Meeting minimum _____
   qualifications above) _____

3. **Construction Cost** _____

4. **Year Completed** _____

B. Contact Information

1. **Owner / Reference Name** _____

2. **Telephone** _____

PROJECT NO. 2

A. Project Information

1. **Project Name and Address** _____

2. **Project Description** _____
   (Meeting minimum _____
   qualifications above) _____

3. **Construction Cost** _____

4. **Year Completed** _____

B. Contact Information

1. **Owner / Reference Name** _____

2. **Telephone** _____

PROJECT NO. 3

A. Project Information

1. Project Name and Address _____

2. Project Description _____
(Meeting minimum _____
qualifications above) _____

3. Construction Cost _____

4. Year Completed _____

B. Contact Information

1. Owner / Reference Name _____

2. Telephone _____

PROJECT NO. 4

A. Project Information

1. Project Name and Address _____

2. Project Description _____
(Meeting minimum _____
qualifications above) _____

3. Construction Cost _____

4. Year Completed _____

B. Contact Information

1. Owner / Reference Name _____

2. Telephone _____

PROJECT NO. 5

A. Project Information

1. Project Name and Address _____

2. Project Description _____
(Meeting minimum _____
qualifications above) _____

3. Construction Cost _____

4. Year Completed _____

B. Contact Information

1. Owner / Reference Name _____

2. Telephone _____

END OF DOCUMENT

MUST BE SUBMITTED WITH THE BID

QUALIFIED SWPPP DEVELOPER
AND
QUALIFIED SWPPP PRACTITIONER

FAILURE TO LIST A QUALIFIED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DEVELOPER (QSD) AND A QUALIFIED SWPPP PRACTIONER (QSP) OR FAILURE TO SUBMIT THIS FORM WITH THE BID WILL RESULT IN THE BID BEING NON-RESPONSIVE

The intent of this form is to solicit information to confirm the name and certification number of (A) the QSD that will be responsible for preparing, amending, and certifying the SWPPP for this project, and the name and certification number of (B) the QSP that will be responsible for performing the monitoring of the storm water and non-storm water visual observations, sampling, and analysis of the Best Management Practices (BMPs) required by the State of California Water Resources Control Board General Permit and the Section 01571 of the specifications. This form (page GR-S5) must provide valid names and certification numbers for the QSD and QSP at the time of bid to meet the minimum qualification for this project; however, submission of the form (pages GR-S5) does not in and of itself constitute qualification.

ITEM NO. 1

A. QUALIFIED SWPPP DEVELOPER

1. **Name of Qualified SWPPP Developer** _____
2. **Certification Number** _____
3. **Address** _____
4. **Telephone** _____

ITEM NO. 2

B. QUALIFIED SWPPP PRACTITIONER

1. **Name of Qualified SWPPP Practitioner** _____
2. **Certification Number** _____
3. **Address** _____
4. **Telephone** _____

MUST BE SUBMITTED WITH THE BID

APPENDIX A

SECTION 01571

STORMWATER POLLUTION CONTROL
MEASURES FOR CONSTRUCTION ACTIVITIES

The Contractor must comply with the requirements of Appendix A – Stormwater Pollution Control Measures for Construction Activities.

SECTION 01571
STORMWATER POLLUTION CONTROL
MEASURES FOR CONSTRUCTION ACTIVITIES

1.1 General: The Contractor shall exercise every reasonable precaution to protect channels, storm drains, and bodies of water from pollution.

A. Conduct and schedule operations to minimize or avoid muddying and silting channels, drains, and waters.

B. As required, obtain permits for erosion and water pollution control from the appropriate jurisdictional agency before starting Work.

C. Provide any necessary water pollution control devices to prevent, control, and abate water pollution, and implement good housekeeping pollution control measures to reduce the discharge of pollutants from work sites to the maximum extent practicable. These water pollution control devices include drains, gutters, slope protection blankets and retention basins and shall be constructed concurrently with other Work at the earliest practicable time.

D. Exercise care in preserving vegetation and protecting property, to avoid disturbing areas beyond the limits of the Work. Promptly repair any damage caused by Contractor operations.

E. Comply with the specific requirements based on acreage of disturbed soil.

F. Penalties: Failure to comply with this Section may result in significant fines and possible imprisonment. The RWQCB or other prosecuting authority may assess fines of up to $32,500 per day for each violation. Should the City be fined or penalized as a result of the Contractor failing to comply with this Section, the Contractor shall reimburse the City for any and all fines, penalties and related costs.

G. Notification and Report: If pollution occurs in the work area for any reason or when the Contractor becomes aware of any violation of this Section, correct the problem and immediately notify the Inspector. In addition, submit a written report to the Engineer within seven (7) calendar days describing the incident and the corrective actions taken. If either the Inspector or Engineer is first to observe pollution or a violation, the Contractor shall also explain in the written report why the Work was inadequately monitored.

H. The provisions of this Section describe minimum compliance and do not preclude other more stringent stormwater pollution control measures that may be required in the Contract.

1.2 Definitions

A. “Construction activity": Operations such as clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances. If construction activity is part of a larger common plan of development, the amount of disturbed soil is the total land area of disturbed soil that results under the common plan.

1.3 Payment: All costs for work required for compliance with this Section shall be included within the Bid Prices.

2.1 **Construction activity - less than one acre of disturbed soil:** Comply with the following minimum water quality protection requirements:

A. Retain eroded sediments and other pollutants on-site and do not allow transportation from the site by sheet flow, swales, area drains, natural drainage, or wind. Control slope and channel erosion by implementing an effective combination of best management practices (BMPs). Such BMPs include scheduling grading during non-rainy seasons, planting and maintaining vegetation on slopes and covering erosion-susceptible slopes.

B. Protect stockpiles of earth and other construction-related materials from being transported from the site by wind or water.

C. Properly store and handle fuels, oils, solvents, and other toxic materials to not contaminate the soil or surface waters, enter the groundwater, or be placed where they may enter a live stream, channel, drain, or other water conveyance facility. Protect all approved toxic storage containers from weather. Clean spills immediately and properly dispose of cleanup materials. Spills shall not be washed into live streams, channels, drains, or other water conveyance facilities.

D. Do not wash excess or waste concrete into the public way or any drainage system. Retain concrete wastes on-site until they can be appropriately disposed of or recycled.

E. Deposit trash and construction-related solid wastes in covered receptacles to prevent contamination of rainwater and dispersal by wind.

F. Do not allow sediments and other materials to be tracked from the site by vehicle traffic. Stabilize construction entrance roadways to inhibit sediments from being deposited onto public ways. Immediately sweep up accidental depositions. Do not allow depositions to be washed away by rain or by any other means.

G. Contain non-stormwater runoff from equipment or vehicle washing and any other activity at the work site.

H. At completion of the Work, clear the worksite of debris and restore to a condition at least equal to or better than prior to construction.

I. When construction activity with grading is likely to occur during the rainy season (October 1 through April 15), prepare a Wet Weather Erosion Control Plan (WWECP) per LAMC Section 61.02. The WWECP must be submitted to the Engineer for approval within thirty (30) calendar days after execution of the Contract.

Guidance on preparing the WWECP can be found in “Development Best Management Practices Handbook - Part A, Construction Activities”, adopted by the Board and as authorized by LAMC Section 64.72. The handbook can be viewed at or obtained at cost at Bureau of Engineering public counters.

J. When working in live streams, these are additional water pollution control requirements.

1. Erect barriers sufficient to prevent muddying or polluting streams.

2. Prior to removing materials from a flowing stream, use a stream bypass or other equivalent means to keep the flow in the stream free of the mud or silt from the removal operations.

3. Avoid transporting materials across live streams. If not possible, the transportation operation must be designed to prevent materials from falling into the stream and cannot muddy the stream.

4. Equipment may not be operated in a live stream or channel unless the Contractor can demonstrate to the Engineer’s satisfaction that no other practical alternatives exist. The equipment must be designed to prevent materials from falling into the stream and cannot muddy the stream.

5. Do not allow fresh portland cement or fresh portland cement concrete to enter the water flowing in streams, channels or drains.

6. Do not allow material derived from the Work to be deposited in a live stream, channel or drain.

2.2 **Construction activity - one acre or more of disturbed soil.** In addition to the requirements for Section 2.1 - “Construction activity - less than one acre of disturbed soil”, file a Notice of Intent (NOI) with the State Water Resources Control Board and apply for coverage under the State General Construction Activity Stormwater Permit (GCASP) (NPDES No. CAS000002. Comply with all of the requirements of the GCASP, including preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must describe the erosion control practices to be implemented during construction and the

selection and implementation of appropriate BMPs to account for site-specific and seasonal conditions. This supercedes the Section 2.1(I) WWECP requirement for describing erosion control practices.

The Waste Discharge Identification Number (WDID) is evidence of NOI submittal. Provide the WDID to the Engineer and other agencies that issued permits for the project (such as the Department of Building & Safety). Guidance with the GCASP, NOI and SWPPP is available in the "Construction Handbook" published by the California Stormwater Quality Association and downloadable from their web site at https://www.casqa.org/resources/bmp-handbooks.

A. Compliance with the GCASP requires:

1. Submitting a NOI to the SWRCB and paying fees prior to start of construction;

2. Preparing the SWPPP before start of construction;

3. Keeping the SWPPP on site, implementing it during construction, and revising it as needed; and

4. Submitting a Notice of Termination with the SWRCB when construction is complete.

B. Implementing the SWPPP requires:

1. Certifying by July 1 of each year that construction activities are in compliance with the GCASP and SWPPP,

2. If there were instances of non-compliance, the Contractor shall submit notifications of non-compliance to the Los Angeles Regional Water Quality Control Board (RWQCB) within 30 calendar days from the time the non-compliance was first identified.

3. If the Contractor, SWRCB, or RWQCB determines that stormwater discharges and/or authorized non-stormwater discharges are causing or contributing to an exceedance of an applicable water quality standard, the Contractor shall:

   a. Implement corrective measures immediately and notify the RWQCB as soon as possible but no later than 48 hours after discovering the discharges. Unless otherwise directed by the RWQCB, follow up the notification with a report within 14 calendar days to the RWQCB. The report must describe: (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; (4) any maintenance or repair of BMPs; (5) an implementation schedule for corrective actions; and, (6) a description of actions taken to reduce the pollutants causing or contributing to the exceedance.

   b. Immediately revise the SWPPP and monitoring program to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.

   c. The Contractor is advised that none of the foregoing prevent the RWQCB from enforcing any provisions of the GCASP while the Contractor prepares and implements the above report.

4. Amending the SWPPP as needed. Sign and date all amendments, attach them directly to the SWPPP and promptly provide copies of all amendments to the Engineer.

5. Ensuring that persons responsible for preparing, implementing, and amending the SWPPP and responsible for permit compliance are appropriately trained. This includes personnel responsible for installing, inspecting, maintaining, and repairing BMPs. Include documentation of their training in the SWPPP.

6. Inspect BMPs before and after each storm and once each 24-hour period during extended storm events to assess BMP effectiveness. Implement BMP repairs or changes

as soon as feasible. Document each inspection with a checklist kept with the SWPPP, using forms provided by the SWRCB, RWQCB or equivalent.

7. Develop and implement a sampling and analysis program for pollutants which are not visually detectable in storm water discharges, which are or should be known to occur on the construction site, and which could cause or contribute to an exceedance of water quality objectives in the receiving water.

8. In addition to plans or permits required by local, state, or federal agencies, maintain copies of the GCASP, SWPPP their amendments and their reference documents available for review at the construction site.

9. Retain records/copies of: data used to complete the NOI; the SWPPP and all attachments and amendments; compliance certifications; notifications of non-compliance; training; incidents such as spills or other releases, including photographs as available; sampling and analysis of discharges discovered through visual monitoring; all reports required by the GCASP; BMP inspections and checklists, and maintenance and repair activities; and activity-based BMPs, such as good housekeeping, that have been implemented.

10. After the Work is complete and final acceptance by the City, submit to the Engineer, all records/copies of documents required by the GCASP, including, but not limited to, the records/copies of the documents noted above.

END OF SECTION

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

IV. TECHNICAL SPECIFICATIONS

Department of Public Works
Bureau of Engineering
Architectural Division

ENGINEERING
CITY OF LOS ANGELES

TECHNICAL SPECIFICATIONS

BRIDGING DOCUMENTS - PERFORMANCE SPECIFICATION

BRIDGING DOCUMENTS (30% Design)

Electrical Plan Sheets E-001 through E004.1 are at approximately 30% construction documents. These drawings, as well as the electrical technical specification, will be the bridging documents for the Electrical Plans for this project. The design-builder shall complete these drawings per Bureau of Engineering (BOE) and Department of Recreation and Parks (RAP) standards, and comply with the full scope of work as outlined below.

PROJECT DESCRPTION

The Cesar Chavez Recreation Complex Phase III C Also Known As: Sheldon Arleta Park Phase III C project is located at 12455 Wicks Street, Sun Valley, CA 91352. The scope of work includes construction of a baseball field, picnic area, restroom, bleachers, shade structure, playground, and lighting. This design-build project includes the completed design, verification and installation of light poles, luminaires, Class IV basketball sports lighting, EV charging stations, wiring, pull boxes and all appurtenances that meet the prescribed City Criteria.

Due to the soil characterization, light poles must be outside the approximate limit of the landfill. Coordination for electrical service with DWP is required. As part of environmental impact mitigation measures, all night lights shall be shielded to shine only on the subject properly, and no light bulb shall be visible from any adjacent property. All field lighting shall be directional lighting aimed only at the playing field/seating areas. Field lighting is allowed until 10 PM and then shall be turned off by automatic timer. Field lighting is allowed only for the active recreation areas.

SCOPE OF WORK:

The design-builder will be responsible to perform and/or adhere to the following:

1. Completion of the plans to a full construction document level, per BOE and RAP standards and approval.
2. Providing of submittals for review at 60% and 90% CD development.
3. Providing of submittals for all fixtures as presented in the bridging plan sheets, including installation procedures and any required testing. Written City approval is required before any fixture or item is ordered.
4. Confirmation or updating of all data on the bridging documents plans, including the voltages, load schedule, plan notes, creating new details, as well as new list new fixtures are installed, if varying from the bridging documents.
5. Evaluating the placement of the power supply units, control modules, drivers, in the concrete deck using standard pull boxes, as a means to keep these in order keeping hidden from public, to the maximum extent possible.
6. Identifying the precise location of each lighting fixture by utilizing existing stationing or create new stationing of the drawing, if necessary.
7. Coordinating with Project Design team for placement of pull boxes, placement of conduits and overall construction of any lighting element for the project.
8. Communicating to DWP for establishing electrical power service for all lighting fixtures.
9. All fixtures may be subject to substitution per BOE and RAP equal.

10. All incentives will be coordinated by the City, the design-builder shall not be involved in any utility sponsored incentives.
11. The preliminary Fault Current value 36,000 amps, subject to change per approved LADWP design plans, to design the electrical equipment.

MEETINGS

The design builder should anticipate upwards of 10 meetings with the Bureau of Engineering and the Department of Recreation and Parks throughout the entire design and build process.

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

V. GEOTECHNICAL DOCUMENTATION

Department of Public Works
Bureau of Engineering
Architectural Division

ENGINEERING
CITY OF LOS ANGELES

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: August 27, 2004

To: Michael Shull
Proj K Bond Program

From: Theo Seeley
Geotechnical Engineering Division (GED)

Subject: **GEOTECHNICAL SITE INVESTIGATION FOR PROPOSED CONSTRUCTION OF THE PROPOSED ATHLETIC FIELDS AND RELATED STRUCTURES AT 12455 WICKS STREET**
WO E1700500 **GED FILE 03-053**

As requested, GED has prepared this Geotechnical report for the subject project. The project will consist of two proposed buildings that will be located outside the limits of the trash landfill and a new flare station. Additionally, recommendations are provided for the regrading of the landfill cap into rolling parkland and athletic fields. Other improvements such as basketball courts, baseball fields, storm drains, children's play area, parking areas, and paved walkways are also covered.

The primary finding of the investigation was that the limits of the landfill are larger than previously thought. This primarily affects the building pads for the north restroom and the proposed flare site. In spite of the four investigations attached, the building pad limits are unknown. At this time, GED recommends that at the completion of the over-excavation limits of the natural ground be surveyed to ensure that the limits of the useable building area can be accurately determined.

The geotechnical conditions at the site are extremely different between the landfill cap and the natural ground around the perimeter of the site. To deal with this, GED worked closely with our consultant Kleinfelder to develop recommendations for each condition. The structures will only be built around the perimeter of the site within limits to be determined during grading and to be reported in the structural compacted fill report. In the attached report, the words "structures" "structural fill" and "engineered fill" only refer to that portion of the site that is not underlain by the trash landfill.

For the area that is within the capped landfill, the words "improvements" and "compacted fill" were used. The improvements include those items related to the athletic fields such as fences, score boards, above ground dugouts, and possible lights. These improvements will have small lightly loaded foundations in the new land fill cap. The report discusses the fact that settlement monuments verified the fact that the settlement is ongoing as the fill materials decay.

To cover the needs of each condition, the report contains separate recommendations for each area. Care should be taken during grading and construction to ensure that the proper recommendations are followed for each area.

The undersigned engineer has reviewed and concurs with the attached report prepared by Kleinfelder, Incorporated, dated August 27, 2004 identified as Project No. 46824-1, and takes responsibility for using its findings and recommendations. The report was prepared for GED under our Contract Number C-98923 in accordance with our Notice to Proceed dated July 7, 2004. This work was performed by Kleinfelder Inc. under the direction of GED, for submittal to Prop K and the Department of Building and Safety Grading Division.

If you have any questions regarding this report, please contact Theo Robert Seeley at (213) 847-4044 or Mike Mulhern (213) 847-4011.

9-30-05

Theo Robert Seeley, G.E. 2079
Geotechnical Engineer II

KLEINFELDER
An employee owned company

August 27, 2004
Project No. 46824-1

Mr. Michael Brown
Manager, Geotechnical Engineering Division
City of Los Angeles Department of Public Works
Bureau of Engineering, Geotechnical Engineering Division (GED)
650 South Spring Street, Suite 600
Los Angeles, California 90014-1911
Attention: Mr. Theo Seeley, PE, GE

Subject: **Report of Geotechnical Study for the Permanent Structures for The Proposed Athletic Fields at Sheldon-Arleta Landfill, 12455 Wicks Street Sun Valley, Los Angeles, California (Map Book 26, Page 15, Block 325) Contract No. C-98923, W.O.E1700500**

Dear Mr. Brown:

Kleinfelder, Inc. (Kleinfelder), is pleased to present this report of geotechnical study for the Proposed Athletic Fields at the Sheldon-Arleta Landfill in Los Angeles, California. This report presents the results of recent geotechnical borings and laboratory testing and geotechnical recommendations for the proposed improvements for the Proposed Athletic Fields. Also included in this report are the results of previous borings and Cone Penetration Tests (CPTs) and laboratory testing by Kleinfelder and General Services Division of Standards of the City of Los Angeles. Kleinfelder previously provided geotechnical consultation services regarding future settlement of the landfill. Siting of the proposed building improvements outside the limit of the landfill by others was based on previous consultation services provided by Kleinfelder and on recommendations by the Bureau of Engineering, Geotechnical Engineering Division (GED). The proposed athletic fields were located in less desirable areas from a geotechnical standpoint where significant settlement is anticipated. This was due to other overriding considerations. Additional settlement evaluations and analyses were not included in our current authorized scope of work.

The results and recommendations of this report are in general conformance with the landfill cap performance analyses and related documents prepared by Kleinfelder. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 5.

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KLEINFELDER 1370 Valley Vista Drive, Suite 150, Diamond Bar, CA 91765-3910 (909) 396-0335 (909) 396-1324 fax

We appreciate the opportunity to be of service on this project. If you have any questions or require additional information, please do not hesitate to contact our office.

Respectfully submitted,

KLEINFELDER, INC.



Justin J. Kempton, P.E., G.E.
Manager, Geotechnical Engineering

Gan Mukpopadhyay, P.E., G.E.
Senior Project Manager

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KLEINFELDER 1370 Valley Vista Drive, Suite 150, Diamond Bar, CA 91765-3910 (909) 396-0335 (909) 396-1324 fax

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Appendix E – Department of General Services Report dated August 10, 2004

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1 INTRODUCTION

1.1 INTRODUCTION

Kleinfelder, Inc. (Kleinfelder), was retained by the City of Los Angeles, Department of Public Works/Bureau of Engineering/Geotechnical Engineering Division (GED), to conduct a geotechnical investigation for the proposed improvements for the Proposed Athletic Fields at the Sheldon-Arleta Landfill in Los Angeles, California. The location of the site is shown on Plate 1, Site Vicinity Map. The scope of our services for this investigation was presented in our proposal dated July 7, 2004. Notice to proceed (NTP) for this assignment was issued by the City of Los Angeles in their letter dated July 7, 2004 (Work Order No. E1700500, under Contract No. C-98923).

This report presents the results of recent geotechnical borings and laboratory testing and geotechnical recommendations for the proposed improvements for the Proposed Athletic Fields. Kleinfelder previously provided geotechnical consultation services regarding future settlement of the landfill. Siting of the proposed structures around the perimeter of the site was based on previous consultation services provided by Kleinfelder and on recommendations by the Bureau of Engineering, Geotechnical Engineering Division (GED). The proposed athletic fields were located in less desirable areas from a geotechnical standpoint where significant settlement is anticipated. This was due to other overriding considerations. As such, additional settlement evaluations and analyses were not included in our current scope of work.

Also included in this report are the results of previous borings and Cone Penetration Tests (CPTs) and laboratory testing by Kleinfelder and General Services Division of Standards of the City of Los Angeles (DGS). The current results of settlement monuments that were installed previously by Kleinfelder at the project site are also included in this report. The work discussed above was conducted between December 2003 and July 2004.

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1.2 PURPOSE AND SCOPE

The purposes of this study were to obtain additional geotechnical engineering data and to develop foundation recommendations for two proposed buildings that will be located outside the limits of the trash landfill. Additionally, recommendations are provided for the existing flare structure in the event the existing flare is razed and rebuilt. Recommendations are also being provided for an alternative flare structure location because the size and limits of the northwest corner building site will not be known until the grading for that area is completed. The primary concern is that the useable area may be inadequate. If the northwest building site is evaluated to be inadequate, the southwest flare building site would be available for consideration. Geotechnical recommendations are also provided for appurtenant structures and other improvements such as basketball courts, baseball fields, storm drains, children's play area, parking areas, and paved walkways.

Our scope of work included the following tasks:

Task 1 – USA Clearance and Drilling Permit

The current field exploration program included the drilling of 20 borings. The locations of the borings were selected by Kleinfelder and GED representatives. Prior to conducting the field exploration, Kleinfelder marked the boring locations at the site and contacted Underground Service Alert (USA) to identify any potential conflicts between our boring locations and existing underground utilities. Air Quality management District (AQMD) permits were also coordinated for the planned work.

Task 2 – Update Health and Safety Plan (H&SP)

Kleinfelder updated the existing Health & Safety Plan (H&SP) addressing site-specific conditions for drilling in landfills where fuels such as gasoline and diesel, solvents, crude and waste oil, and metals may be anticipated in soil. Kleinfelder and subcontractor personnel involved with field sampling activities were licensed for hazardous material handling and California Occupational Safety and Health-certified for Occupational Health and Safety Administration (OSHA) Hazardous Waste Operation Standards (29 Code of Federal Regulations [CFR] 1910.120).

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Task 3 – Drilling, Sampling, and Logging

Kleinfelder recently performed drilling and sampling of twenty (20) borings (B-15 through B-34) in July 2004, using Prosonic Corporation as the drilling subcontractor. Fourteen borings (B-1 and B-14) were drilled and sampled by Kleinfelder earlier in December 2003 and January 2004. It should be noted that not all of the borings were located within the perimeter of the landfill, or drilled through the landfill cap. The locations of the current and previous borings are shown on Plate 2, Plot Plan. The latitude and longitude of the boring locations were obtained during the drilling operation by using a consumer quality hand-held GPS unit (NAD 27 Coordinate System).

In general, geotechnical soil samples were collected from the borings at 0-2 feet, 2.5 feet, 5 feet, 7.5 feet, 10 feet, 15 feet and 20 feet using either a Standard Penetration Test sampler (SPT) or California Double Barrel Ring sampler. The soil samples were classified and logged in the field by a geologist using Unified Soil Classification System (USCS). Representative undisturbed and bulk soil samples were collected at selected depth intervals. The samples were packaged in moisture tight containers. The samples were then transported to our laboratory for testing and the borings were backfilled with bentonite chips.

In addition, environmental soil samples were collected in the borings B-15 through B-34 at depths of 2.5 feet, 5 feet, and at every 5-foot interval thereafter. These samples were all obtained above the groundwater level, and not in the landfill trash. Investigative derived waste (IDW), including drill cuttings and decontamination wastewater from four suspected borings (drilled within the limits of the refuse under the Rule 1150 permit) were stored on-site in four 55-gallon metal drums pending receipt of laboratory analytical results.

A detailed description of the field exploration, the logs of borings B-1 through B-34, and an explanation to the logs are presented in Appendix A. The final logs of borings were updated as necessary based on the results of soils classification laboratory tests discussed in the following task.

Core penetration tests (CPTs) were also previously conducted under the supervision of Kleinfelder. Details regarding the CPTs and the results of the CPTs are also presented in Appendix A. The approximate locations of the CPTs are shown on Plate 1.

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Task 4 – Geotechnical Laboratory Testing

After receiving the geotechnical laboratory test assignments from GED, laboratory testing was performed on representative samples to further evaluate the classification of the soils and to evaluate the physical characteristics of the subsurface soils encountered. These tests included: moisture/density, maximum dry density and optimum moisture content, grain size distribution, hydrometer, Atterberg Limits, direct shear, consolidation, and preliminary corrosivity (pH, Chloride, Sulphate, and Resistivity). The direct shear tests were performed on undisturbed and remolded samples. Direct shear tests could not be performed on ring samples selected by GED from Borings B-15 through B-34 because the assigned samples consisted of very dry coarse granular materials that became disturbed upon removal from the sampling rings. Kleinfelder previously conducted geotechnical laboratory testing on samples obtained from borings B-1 through B-14 that were not included in our March 2004 report. As such the results of the laboratory tests from B-1 through B-14 are presented in Appendix B and the results of the laboratory tests performed on samples from Borings B-15 through B-34 are presented in Appendix C.

Task 5 – Environmental Chemical Tests

In conjunction with the geotechnical soil sample collection activities in Borings B-15 through B-34, Kleinfelder collected environmental soil samples for field screening and chemical laboratory analyses. Soil samples submitted for laboratory analysis were tested for Organochlorine Pesticides, Polychlorinated by phenyls (PCBs), and California Code of Regulations Title 22 Metals. Further discussion of the environmental soil sampling methods, analytical results, and laboratory analytical reports are provided in Appendix D – Environmental Field Activities and Laboratory Testing.

Task 6 – Soil Characterization and Engineering Analyses

Soil characterization and engineering analyses were performed to develop design recommendations. The field and laboratory data were analyzed in conjunction with the site plan and anticipated foundation loads. We evaluated potential foundation systems, lateral earth pressures, settlement, and construction considerations including earthwork. Design recommendations for use with Los Angeles Building Code (LABC) seismic design criteria were considered. We also evaluated the preliminary corrosion potential of the site soils.

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Task 7 – Geotechnical Report

This geotechnical report was prepared to present our findings, conclusions, and recommendations for design and construction of the proposed improvements. This report includes the following:

- A site location map (Plate 1);
- A scaled plot plan (Plate 2) showing the approximate locations of the proposed improvements, current and prior borings and CPTs by Kleinfelder, prior borings drilled by DGS, and settlement monuments that were installed by Kleinfelder.
- Logs of the Boring and CPTs by Kleinfelder (Appendix A);
- Results of Geotechnical Laboratory Test by Kleinfelder (Appendices B and C);
- Results of Environmental Chemical Tests (Appendix D);
- Logs of borings and the results of laboratory tests performed by General Services, Division of Standards of the City of Los Angeles (Appendix E);
- Recommendation for site preparation and earthwork including removal and recompaction of foundation soils for four possible building sites;
- Foundation recommendations for the four possible building sites and for minor structures;
- General grading recommendations for the Athletic Fields;
- Grading and foundation recommendations for improvements to the Athletic Fields which include back stops for the baseball diamonds, benches, bleachers, and above ground dugouts;
- Grading recommendations for the gravel parking lots, walkways, and picnic table areas; and; and,
- Grading recommendations for the hardscape areas such as the turnarounds near the entrances, and paved basketball courts.

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1.3 PREVIOUS INVESTIGATIONS AND REPORTS

As mentioned earlier, Kleinfelder performed two other geotechnical field investigations that were reported in 2004 and the results of those two investigations were submitted in the following reports:

- Preliminary Geotechnical Feasibility Evaluation, Proposed Athletic fields at Sheldon-Arleta Landfill, Los Angeles, California, dated March 2, 2004.
- Draft Report of CPT Investigation and Settlement Monument Installation, Sheldon-Arleta Landfill, Proposed Athletic Fields, Los Angeles, California, dated May 4, 2004.

For the March 2, 2004 report, fourteen borings were drilled and sampled, and ten settlement monuments (the "B" series monuments) were installed. For the May 4, 2004 report, thirty-two CPTs were performed and ten additional settlement monuments (the "SM" series monuments) were installed. Monitoring of the settlement monuments was performed by the City of Los Angeles.

In addition to the above two geotechnical studies performed by Kleinfelder, the General Services Division of Standards of the City of Los Angeles recently (circa June, 2004) performed a geotechnical investigation at the northwest corner of the site and outside the site along both Arleta Avenue and Sheldon Street. The report by the Division of Standards states that they performed six borings at the northwest corner of the project boundary, three borings along Sheldon Street, and four borings along Arleta Avenue. The logs of these thirteen borings and the results of laboratory tests performed by the Division of Standards are included in Appendix E of this report. All of the work performed by Division of Standards was done at the request of and under the supervision of GED. The Division of Standards report has been included in this report (in Appendix E) at the request of GED.

1.4 PROJECT DESCRIPTION

The location of the site, the Sheldon Arleta Landfill, is shown on Plate 1, Site Vicinity Map. The site previously operated as a commercial sand and gravel quarry from the mid –1950's to 1962 and from 1962 to 1974 the site was operated by the City of Los Angeles as a disposal site for residential waste and construction debris.

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The site is currently proposed for use as a recreational park that will primarily include soccer fields, baseball fields, basketball courts, and play areas. The proposed improvements are shown on Plate 2, Plot Plan. The proposed improvements generally include soccer fields, baseball fields, above grade dugouts and backstops, paved parking areas and minor structures for concessions stands and restrooms. The improvements will also include interior roadways, pedestrian walkways, and perimeter fencing. The existing flare station may also be raised and rebuilt and/or possibly relocated.

Two buildings (a restroom/concession stand and a separate restroom building) are proposed to be located around the perimeter of the park and outside the limits of the proposed landfill. The restroom/concession stand building is proposed adjacent to Wicks Street. The second restroom building is planned adjacent to the turnaround at the northeast end of the parking lot adjacent to Sheldon Street.

In addition to the two buildings, the present plan is to move the existing flare station to the northwest corner of the property. Depending on the actual subsurface conditions, the building pad at the northwest corner of the property may not be usable. Therefore, it is recommended that the existing flare station at the southwest corner of the site be graded as a potential building site.

We anticipate that the proposed structures will consist of single story relatively small buildings of masonry or wood frame construction with either slab-on-grade floors or raised structurally supported floors. The foundation loads are anticipated to be relatively light (less than 1000 pounds per square foot) and will consist of continuous shallow foundations or a reinforced slab with deepened edges.

Other improvements will include basketball courts, storm drain lines, a children's play area, gravel parking areas and paved walkways. New right turn lanes for new entryways on the north and west sides of the site are also planned.

The site is located in a recently mapped City of Los Angeles Methane Gas Mitigation Zone. This will apply if a slab on grade floor is used. If a raised floor with adequate ventilation is used, the requirements of a Methane Gas Mitigation Zone will not apply.

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A separate methane mitigation report is currently being prepared by Kleinfelder for the deep collection system to replace the existing methane extraction system.

1.5 SITE DESCRIPTION

The site is bounded by Sheldon Street on the northwest, Sharp Avenue on the northeast, Wicks Street on the southeast, and Arleta Avenue on the southwest. An existing high school is located on the opposite side of Wicks Street and a residential area is located across Sharp Street. The Hollywood Freeway (SR 170) traverses west of the property near the intersection of Sheldon and Arleta. There is a Department of Water and Power (DWP) office building near the site located across Arleta Avenue.

The current site topography consists of undulating terrain as a result of past site grading and uneven settlement of the landfill materials. The perimeter streets slope gently from north to south. The elevation of the perimeter streets varies from approximately El. 845 feet near the intersection of Sheldon and Sharp to El. 825 feet near the intersection of Wicks and Arleta. Elevations are based on Mean Sea Level (MSL). The ground surface elevation of the project site area varies from El. 825 feet to El. 860 feet (MSL). The ground surface is covered with grass and some sparse small to large trees and shrubs. An unpaved access road traverses the perimeter of the site, while another access road traverses across the site from southeast to northwest. The site is presently being used for a methane collection system. The methane being generated by decaying buried landfill material is collected by wells located over the entire site. The wells are connected by an above ground gas collection system of pipes that traverse the site. The gas collected at the northwest corner of the site is primarily harvested and pumped off site. The excess methane is piped along Arleta Avenue to the existing flare station. This consists of a single story masonry structure at the southwest corner of the property.

1.6 BACKGROUND

Prior to construction of the landfill, the site was used to mine sand and gravel. A topographic map dated January 1962 was provided by the City of Los Angeles, which we have assumed represents the approximate bottom grades of landfill. We understand the site operated as a Class III Sanitary landfill between 1962 and 1974 and that approximately 3 million tons of residential and commercial refuse were placed at the site. A soil cover was placed over the refuse at closure. We understand that additional fill was placed and grading was conducted subsequent to closure of the landfill.

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Based on the Pre-Landfill Topographic Plan of 1962, the-then pit bottom was not level ground, but the bottom elevation of the bowl varied significantly – (a) approximately one third of the currently defined pit boundary along Wicks Street at El. 830 feet, MSL (+/-); (b) one-sixth of the area in the east along Sharp Street at El. 660 feet (+/-); (c) one-sixth of the area at the north along Sharp Street at El. 725 feet (+/-), one-fourth of the area on the west along Sheldon Street at El. 685 feet (+/-); and a shallower bowl at the west and south-west along Arleta Avenue. The above uneven bottom of the pit was filled with inert waste materials up to El. 700 prior to placement of any municipal waste materials (MWM). To prevent water seepage from the Tujunga Spreading Ground (TSG), a two-layer drainage system, consisting of an 8-foot thick layer of permeable material against the pit wall and an 8-foot thick clay layer against the permeable material was proposed in early 1960's. This sand-clay barrier was reportedly constructed as the refuse was placed along Sheldon Street, Arleta Avenue, and part of Wicks Street. Based on the report prepared by SCS Engineers, dated August 27, 2002, the top of waste elevation ranged from 796 to 836, while the thickness of the waste materials ranged up to 176 feet.

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2 FINDINGS

2.1 SUBSURFACE SOIL CONDITIONS

2.1.1 General

The following sections summarize the results of geotechnical field explorations by Kleinfelder and Division of Standards. The boring logs and CPT logs presented in Appendices A and D should be reviewed for a more detailed description of the subsurface conditions at the locations explored. A general overview of the soil conditions is presented in this section (Section 2.1.1) and is followed by a summary of the anticipated subsurface conditions at specific locations for proposed improvements (Section 2.1.2). It should be noted that not all of the borings were drilled within the perimeter of the landfill or drilled through the landfill cap.

The proposed permanent structures are located near the perimeter of the site along Wicks Street on the south and Sheldon Street on the north and are intended to be located outside the limits of the landfill. In general, the subsurface soils outside the limits of the landfill are anticipated to consist of artificial fill soils over natural soils. The artificial fill soils around the perimeter are anticipated to be relatively shallow (less than 5 feet), but locally could be up to 10 feet in thickness. The artificial fill soils generally consist of silty sand, gravelly sand, sandy silt, and silty clay. The natural soils as encountered in our borings consist of sand, silty sand and sandy silt with layers of gravelly sand and silty clay. Cobbles and boulders are also anticipated to be present within the subsurface native soils.

Within the landfill pit area, the landfill cap is composed generally of silty sand, clayey sand and silty clay. The thickness of the landfill cover varied in thickness in our borings. Based on our boring data, the landfill cap thickness ranges from approximately 16 feet in Boring B-6 on the north near the intersection of Sheldon Street and Arleta Avenue to 53 feet in Boring B-14 on the south near the intersection of Wicks Street and Sharp Avenue. Since no reports documenting the placement methods and compaction of the fill soils were available to us, we have assumed the fill was not placed as engineered fill suitable for support of structures.

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An evaluation of our field data indicates that the subsurface soil conditions and the limits of the landfill pit are different from what was anticipated based on available earlier reports. The natural land in the north and northeast perimeter of the site is much narrower than previously assumed based on prior quarry topographic maps. It appears that the landfill pit was expanded further in the north and northeast direction after Sheldon Street was realigned to the north. There is no documentation available to us regarding the as-built geometry of the landfill pit. However, the existing data indicate that the cut slope inclination of the landfill pit could be steep to nearly vertical. Evidence of the steep transition in depth to native soils is discussed below in the summary of subsurface conditions encountered at the proposed site for the proposed restroom facility along Sheldon Street. The exact limits of the transition from shallow to very deep fill/native soil contacts with respect to the pads of the proposed structures are not known. These limits are recommended to be determined during the grading operation.

The subsurface conditions at the specific structure locations can be summarized as follows:

2.1.2 Subsurface Conditions at Structure Locations

Concession/Restroom Building Along Wicks Street – Based on Borings B-27 though B-30, the subsurface soils encountered at this location consist of a surficial layer of silty sand fill of varying thickness medium dense natives to dense sands. The thickness of the surficial silty sand layer varies from approximately 2 feet at the west end to approximately 5 feet at east end of the proposed location.

Restroom Facility Along Sheldon Street – Based on Borings B-15 through B-18, the subsurface soils encountered in the northern portion of this location consist of artificial fill over native sand and gravelly sand. Boring B-16 drilled near the southern edge of the building encountered approximately 16 feet of fill over trash. Natural soils were encountered at or near the ground surface in boring B-17, which was drilled at the northern edge of the structure. Artificial fill was encountered to approximately 14 feet below grade in Borings B-15 and B-18. The currently proposed structure footprint appears to be near the edge of the landfill pit wall, however the location of the landfill pit wall is still relatively unknown. The fill/native contact appears to drop abruptly between B-17 and B-16 within a distance of approximately 15 to 20 feet. The subsurface soil conditions for structural support is anticipated to improve towards the north and northwest of B-17. Recommendations for evaluating the location of the landfill pit wall in this area and establishing the location of the proposed restroom building during grading are presented in this report.

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Flare Station Site at the Northwest corner of the Project Site Near the Intersection of Arleta Avenue And Sheldon Street – Borings were not drilled and sampled by Kleinfelder at this location. Kleinfelder performed four CPT tests along an alignment, CPT-AL2. Based on the CPT test data, the subsurface soils consist of clay, clayey silt, silty clay with layers of sandy silt and silty sand. Seven borings were drilled and sampled by the Department of General Services (DGS) near the entrance on Sheldon Street. These borings were advanced to depths ranging from approximately 14 to 28 feet below the existing ground surface. The subsurface soils, designated by DGS as Landfill Cap, consist of loose to medium dense, silty fine to medium sand with some silt and gravel. In DGS Boring B-5, glass/organic debris was encountered at 5 feet and trash at 10 feet below the existing ground surface, but it is not clearly indicated whether the trash was continuous below a depth of 10 feet. The variability of the fill depth provides additional ambiguity as to the location of the edge of the landfill cap.

Flare Station Site at Southwest Corner of the Project - Borings B-21 through B-24 at the proposed southwest location of the Flare Station indicate that the subsurface soils consist of dense, fine to medium sand with gravel overlain by a medium dense layer of possible artificial fill. The possible artificial fill is anticipated to consist of silty sand and sandy silt, and varies in thickness from approximately 2 feet. Boring B-3, drilled approximately 100 feet north of the Flare Station did encountered landfill debris.

2.2 GROUNDWATER CONDITIONS

Groundwater was not encountered in the 34 borings that were drilled and sampled by Kleinfelder for this investigation or in the borings drilled by DGS. The historical high groundwater level is reported to be approximately 130 feet below the ground surface (Los Angeles Co., 2004; CGS, 1997). The County reports the current regional groundwater level is approximately 195 feet below the ground surface in well 4897B, located approximately 500 feet northeast of the site (Los Angeles Co., 2004).

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Fluctuations of the groundwater level, localized zones of perched water, and soil moisture content should be anticipated during and following the rainy season. Irrigation of landscaped areas on or immediately adjacent to the site can also cause a fluctuation of local groundwater levels. The site is located down gradient of the Hansen and Tujunga spreading grounds. Operation of these spreading grounds may contribute to elevated levels of soil moisture or perched groundwater (USGS, 1966). The clay barrier discussed in Section 1.6 of this report was reportedly constructed to reduce water seepage from the spreading grounds into the landfill.

2.3 SETTLEMENT OF THE LANDFILL CAP

As mentioned previously, Kleinfelder installed 10 settlement monuments (the "B" series monuments) as part of our March 2, 2004 geotechnical consultation report and 10 additional settlement monuments (the "SM" series monuments) as part of our May 4, 2004 draft report. The monitoring of the settlement monuments was conducted by the City of Los Angeles and was provided to Kleinfelder by GED for inclusion with this report. Settlement monitoring data was provided for the "B" series monuments (B-3 through B-10, B-13, & B-14) and the "SM" series monuments (SM-1 through SM-10). The monitoring periods are summarized below:

- "B" series monuments: February 24, 2004 through July 21, 2004 (148 days or 0.40 year)
- "SM" series monuments: May 17, 2004 through July 21, 2004 (65 days or 0.18 year).

The results of the monitoring data of the "B" and "SM" series settlement monuments are presented in Tables 1A and 1B below. The settlement magnitudes have been annualized for obtaining a rough annual estimate only and are presented in Tables 1A and 1B. These settlement monitoring results should be used with caution because they only reflect a short period of time. Please note that the time scaling factor of the "SM" series is more than double of that of the "B" series. Secondly, a higher time scale factor will tend to magnify the annualized settlement. Also, note that the settlement data has been developed during the dryer months of the year. The rate of settlement is typically impacted by rainfall and generally, higher settlements occur following periods of intense rainfall.

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Table 1A - Settlement Data for "B" Series Monuments
Monitoring Period: February 24 – July 21, 2004 ~ 0.4 year

Monuments	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-13	B-14
Settlement in 0.4 Year (Feet)	0.04	0.08	0.18	0.16	0.10	0.08	0.08	0.09	0.07	0.02
Annualized Settlement (Feet)	0.10	0.20	0.44	0.40	0.25	0.20	0.20	0.22	0.17	0.05

Table 1B - Settlement Data for "SM" Series Monuments
Monitoring Period: May 17 – July 21, 2004 ~ 0.18 year

Monuments	SM-1	SM-2	SM-3	SM-4	SM-5	SM-6	SM-7	SM-8	SM-9	SM-10
Settlement in 0.18 Year (Feet)	0.05	0.08	0.03	0.04	0.01	0.02	0.08	0.04	0.05	0.06
Annualized Settlement (Feet)	0.28	0.45	0.17	0.23	0.05	0.11	0.45	0.23	0.28	0.34

The above settlement data set indicates that settlement of varying magnitude appears to be occurring over the area of the landfill. Settlement of the landfill is anticipated to continue in the future. Monitoring of the settlement should continue following grading of the site. We anticipate that once the settlement monitoring program is conducted over an extended period of time, the general trend of settlement may be assessed with a greater accuracy that will facilitate in developing an appropriate maintenance program. In absence of any other settlement monitoring data, the current data set may be used in conjunction with other previously presented settlement evaluations for initial planning purposes.

The "SM" monuments were installed with the anticipation that cut and fill grading will occur and were designed to be adjusted during grading. The monuments shall be protected in place during site grading. Details regarding the construction of the "B" monument are presented in Appendix A and a typical detail of the construction of the" monuments is presented as Plate 3, Settlement Monument. The details may be referred to for adjustments for future and post grading use. A survey of each monument should be conducted immediately before and after the monument is adjusted (cut or added onto).

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2.4 GEOLOGIC LITERATURE REVIEW

Below is a summary of the results of our limited geologic literature review for the subject site.

- Regional geologic mapping indicates that the site is located within an area underlain by alluvium deposited by the Los Angeles River and its tributaries, consisting of gravel, sand, and silt (CGS, 1997; Dibblee, 1991). The surface alluvium is underlain at depth by crystalline rock (Dibblee, 1991). Locally the site is underlain by the closure cap and fill debris of a former Class III landfill.

- The site is not listed as being within any 100-year or 500-year flood hazard zone (ESRI/FEMA, 2004). According to Los Angeles County, the site is not listed within a tsunami or seiche inundation hazard zone (1990). However, the site is within the Hansen Dam Flood and Inundation Hazard Zone (Los Angeles Co., 1990; USACE, 1986). Hansen Dam is normally a dry flood control structure.

- The site is not located within a State or County designated Earthquake Fault Rupture Hazard Zone for active surface faulting (Hart and Bryant, 2000; Los Angeles Co., 1990).

- The site is not located within a State designated Seismic Hazard Zone for Earthquake-induced Landslides (CGS, 1998).

- The site is not located within a State designated Seismic Hazard Zone for Liquefaction potential (CGS, 1999).

- The elevated inland location of the site is not situated near any impounded bodies of water; therefore, tsunami or seiche are not considered potential hazards to the project (Los Angeles Co., 1990; USGS, 1966).

- The site is located within a City of Los Angeles Methane zone (2004).

- The most significant geologic hazard to the project is the potential for moderate to strong ground shaking resulting from earthquakes generated on the faults within the vicinity of the site. In the vicinity of the site, approximately 43 known active faults have been mapped within a 62-mile (100-kilometer) radius of the site.

- Faults identified by the State as being either active or potentially active are not known to be present at the surface of the site.

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- The site is located within the USGS 7½' Van Nuys, California Quadrangle, at Latitude 34.22680°N and Longitude 118.40721°W, at approximately the 845-foot elevation (MSL).
- Under the current understanding of regional seismo-tectonics, the largest maximum magnitude event to significantly impact the site may be generated by the Sierra Madre Fault having a moment magnitude of M7.0.
- The State (CGS, 1998) indicates a 10% probability of exceedance in 50 years for an acceleration of 0.59 g for alluvial sites within this area. The site is located in Seismic Zone 4 of the 1997 edition of the Uniform Building Code (UBC).

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3 CONCLUSIONS AND RECOMMENDATIONS

3.1 GEOTECHNICAL FEASIBILITY

Based on the results of our investigation, it is our professional opinion that it is geotechnically feasible to construct the proposed improvements, provided that the recommendations presented in this report are incorporated into project design and construction. Based on our findings of the subsurface conditions, the following geotechnical considerations shall be incorporated into design of the improvements as well as in the planned maintenance programs for the site.

1. Settlement of the ground surface is ongoing over the landfill. Differential settlement should be anticipated in design and maintenance planning of sports fields, hardscape, buried utilities and other at grade improvements constructed over the landfill cap. The differential settlement will cause distress to improvements and utilities constructed over the landfill that are not designed and maintained accordingly. Also, differential settlement may result as changes in surface drainage and buried utilities (i.e. storm drains) that rely on gravity flow.

2. The edge of the landfill is anticipated to consist of a very steep transition between a shallow fill over native soil contact and a very deep fill and refuse over natural soil contact. The exact edge of the landfill with respect to the proposed structures has been somewhat difficult to identify. In the case of the proposed restroom building along Sheldon Street and the Flare Station site near the 170 Freeway, the location of the edge of the landfill is recommended to be determined during grading in order to establish the final location of the structure. The proposed buildings are recommended to be located outside the limits of the landfill and underlain by shallow engineered fill over native soils.

3. Based on the current exploration data, the amount of suitable land for structures is less than that previously assumed. Previous assessments of the edge of the landfill were based on approximate dimensions of the quarry (previously assumed to be equivalent to the limits of the landfill). It appears that the landfill pit was expanded further to the north and northeast directions after Sheldon Street was realigned to the north. There is no documentation available to us regarding the as-built geometry of the landfill pit.

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4. The proposed buildings are recommended to be supported on shallow spread foundations underlain by engineered fill over the native soils and outside the limits of the landfill. Site preparation of the proposed building pads shall include overexcavation and recompaction of the existing fill and upper native soils. At the proposed restroom building along Sheldon Street and the Flare Station near the 170 Freeway, the location of the edge of the landfill is recommended to be determined during grading in order to establish the final location of the structure over shallow native soils. Deep foundations across the very steep transition zone at the edge of the landfill are not considered to be feasible.

5. Recommendations are provided herein for two proposed flare station sites; the northwest and the southwest corners of the site. Recommendations are provided for an alternative flare structure location (the southwest corner) because the size and limits of the initially planned northwest corner building site will not be known until the grading for that area is completed. Based on the current data, there is concern that the useable building area may not be adequate. If the northwest building site is evaluated to be inadequate, the alternative southwest flare building site would be available for consideration. The southwest flare building site is recommended to be graded for structural support for this consideration.

6. Since the proposed structures will be located adjacent to or near the steep transition zone at the edge of the landfill, the proposed structures will not be constructed below a 1:1 plane drawn upward from the bottom of the landfill pit. It is our professional opinion that this is an acceptable condition since the proposed building foundations will consist of lightly loaded shallow foundations underlain by engineered fill over native soils. The pressure distribution of the foundation loads on the soils is anticipated to decrease to approximately 2% of the foundation's pressure at a maximum depth of 4 feet below the footing and at a horizontal distance of approximately 1 foot from the edge of the footing. This will be well within the limits of new engineered fill. In addition, based on past performance, the former quarry pit walls appear to be capable of standing vertical for a significantly long time period and thereby are considered to be stable in their current buried condition.

7. The bottom of the approved overexcavation shall be surveyed by a licensed land surveyor to document the limits and depth relative to the proposed building location.

8. Due to the steepness of the edge of the landfill, deep foundations are not considered to be feasible. It appears that the most economical solution to providing uniform foundations support to permanent structures is to move the structures outside the limits of the landfill pit walls.

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The results and recommendations of this report are in general conformance with the landfill cap performance analyses and related documents prepared by Kleinfelder. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 5.

The findings, conclusions, and recommendations presented in this report are based on the properties of the materials as encountered in our borings, the results of the laboratory testing program, our engineering analyses, and our professional engineering judgment. Detailed recommendations for the proposed improvement are presented in the following sections.

3.2 LOS ANGELES UBC SEISMIC PARAMETER

Because this site is located in the seismically active Southern California region, we recommend that, as a minimum, the proposed structures be designed in accordance with the requirements of the latest edition of the Los Angeles Uniform Building Code (UBC) for Seismic Zone 4. We recommend that a soil profile factor of S_D be used with the UBC design procedure (Table 16-J). Near source seismic coefficients for acceleration and velocity, Na, Nv, Ca, and Cv (UBC Tables 16-S and 16-T) should be used for calculating the design. The site is located within the 2-km Active Fault Near-Source (Seismic) Zone for the Verdugo Fault, a Type B Fault as designated by the 1997 UBC (ICBO, 1998). A summary of the seismic parameters is presented below.

Design Fault		Verdugo
Fault Type		B
Seismic Zone		4 (z = 0.4)
Soil Profile Factor (Table 16-J)		S_D
Near-Source Distance		2.0 km
Na (Table 16-S)		1.3
Nv (Table 16-T)		1.6
Ca (Table 16-Q)	0.44 (Na)	0.57
Cv (Table 16-R)	0.64 (Nv)	1.02

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3.3 FOUNDATIONS OUTSIDE THE LANDFILL CAP AREA

3.3.1 General

Foundations will be required for buildings and at grade structures outside the limits of the landfill and for improvements within the landfill cap area. The proposed buildings consist of very lightly loaded structures and include:

- A concession stand/restroom building along Wicks Street
- A restroom building along Sheldon Street
- A new flare station that will preferably be located in the northwest corner of the site and alternatively located in the southwest corner of the site

At grade structures planned to be located outside the limits of the landfill include basketball courts, the concrete ring around the children's play area, and light poles.

Based on our review of the grading plan and on-site soil conditions, undocumented artificial fill of varying thickness is present above the native granular soil at the proposed locations of the permanent structures. At the buried margins of the landfill pit, the cut slope wall appears to drop steeply into the former quarry pit. Considering the geometry of the pit wall and overburden soil cap, particular attention shall be given in selecting the location of the structures and their foundation type. It is recommended that all permanent structures be located outside of the boundary of the buried pit wall. Excessive differential settlement is anticipated if a structure footprint is located partially over native soil and partially over the landfill cap. Due to the steepness of the pit wall, a pile foundation is not considered to be a feasible foundation type if the structure is partially located over the buried pit wall.

Permanent building footings in close proximity to the buried cut slope of the landfill pit shall be located at a minimum of 3 feet from the rim of the buried landfill cut slope. This shall be verified by surveying the limits of the bottom of the overexcavation after it is approved by a representative of GED.

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Based on the boring and CPT data, it is recommended to move the location of the north bathroom further to north/northeast towards Sheldon Street in order to provide a uniform foundation condition for the facility. We recommend that the location of the edge of the landfill be determined during grading in order to establish the final location of the structure over shallow native soils.

3.3.2 Spread Foundations for Primary Structures

3.3.2.1 General

We recommend that the proposed structures be located outside of the limits of the landfill. The pads for the proposed structures shall be prepared by overexcavation of the existing fill and native soils to a minimum depth of 5 feet below grade and recompacting the soil to a minimum relative compaction of 95 percent in accordance with ASTM D 1557-91. The engineered fill shall extend a minimum horizontal distance of 4 feet beyond the footing or equivalent to the final thickness of engineered fill below the foundation. Additional overexcavation and recompaction may be needed in areas where deeper fill is encountered, or if the exposed overexcavated subgrade soils are otherwise deemed by the project Geotechnical Engineer to be inadequate for structural support in its current state. At a minimum, the footings shall be underlain by at least 3 feet of engineered fill.

3.3.2.2 Allowable Bearing Pressure and Reinforcement

For continuous and isolated spread foundations extending at least 12 inches below the lowest adjacent grade and underlain by engineered fill as recommended above, an allowable bearing pressure of 1,500 pounds per square foot (psf) may be used for design. The recommended bearing pressure is for total dead plus live loads and may be increased by one-third for wind, seismic or other transient loading conditions. Continuous and isolated foundations shall have a minimum width of 12 inches and 18 inches (square), respectively. Structural reinforcement shall meet minimum building code requirements and shall be designed by a structural engineer. A minimum of two No. 4 bars is required in continuous footings.

The recommendations included in this section are also applicable to reinforced slab foundations with thickened edges. Thickened edges shall conform to the recommendations for continuous footings.

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3.3.2.3 Lateral Resistance

Lateral load resistance may be derived from passive resistance along the vertical sides of the footings, friction acting at the base of the footing or a combination of the two. A passive earth pressure of 250 psf per foot of depth may be used for design of foundations embedded in engineered fill. The maximum value of passive earth pressure shall not exceed 750 psf for isolated shallow footings. A coefficient of friction of 0.35 between the base of the footings and the supporting engineered fill may be used for sliding resistance using the dead load forces. The passive and frictional resistance may be combined without reduction. The passive resistance may be increased by one-third to account for seismic loading.

3.3.3 Pole Foundations Outside the Landfill Cap

Light standards and tall pole type improvements are anticipated to be supported on relatively short pole-type or short drilled pier foundations. The downward capacities of pole type foundations may be determined by using an allowable friction value of 500 pounds per square foot for engineered fill and the native soils or an allowable end bearing pressure of 2000 psf. The lateral resistance of pole type foundations may be evaluated using the pole formula in the Los Angeles Building Code. When using the pole formula, the lateral resistance of the soils may be assumed to be equal to that developed by a fluid with density of 400 pounds per cubic foot for the engineered fill and 600 pounds per cubic foot for the native materials.

3.3.4 Settlement Considerations For Permanent Structures

Settlement of permanent structures located outside the limits of the landfill is anticipated to be comprised of normal consolidation settlement due to foundations loads and seismic induced settlement. The estimated settlement of permanent structures located outside the limits of the landfill is discussed below.

The total consolidation settlement for foundations designed in accordance with the recommendations presented above is estimated to be ½ inch or less. Since the proposed permanent structures will be located in areas underlain by engineered fill over native granular soils, most of this settlement should take place during construction. Differential, post-construction settlement is estimated to be ¼ inch or less between adjacent footings. It is our understanding that the anticipated settlements are within normally accepted structural design criteria.

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Seismically-induced settlement is the settlement of the ground surface caused by densification of non-saturated soils due to earthquake-induced ground shaking. Based on laboratory and field data, we anticipate that seismically-induced total settlement or seismically-induced differential settlement to be nil to less than ½ inch.

Since the primary structures will be located outside the limits of the landfill, additional settlement due to consolidation of the landfill cap or materials is not anticipated to impact the primary structures. Please note that improvements placed over the landfill cap material will experience significant total and differential settlement due to settlement of the landfill cap and underlying materials.

3.4 FOUNDATIONS WITHIN THE LANDFILL CAP AREA

3.4.1 General

Improvements such as light poles, baseball backstops, bleachers, and fencing are anticipated to be placed in areas designated to have low to high potentials for future settlement and differential settlement. These improvements are anticipated to be constructed solely or partially in the landfill cap area are likely to experience large total and differential settlements. Minor improvements shall be supported on shallow spread foundations underlain by compacted fill or on relatively short drilled pier or pole-type foundations. These improvements shall be designed to be flexible and capable of tolerating differential settlement that may result in vertical, horizontal and rotational movements. The foundations for such improvements shall be capable of being periodically leveled and plumbed as necessary. Deep foundations are not considered to be a feasible alternative for these structures. This is due to the significant depth to native soils in the landfill area and the downdrag that will result from the settlement of the cap and landfill debris.

3.4.1.1 Spread Foundations for Improvements in Landfill Cap Area

Spread foundations for improvements in the landfill cap area shall be underlain by at least 2 feet of compacted fill. These foundations will be located in the landfill cap area recommended to be overexcavated at least 5 feet below finish grades and recompacted to 90 percent relative compaction. Overexcavation deeper than 5 feet are not required since the subject foundations are being designed to accommodate larger than typical differential settlements. These structures will require more than typical maintenance.

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Spread foundations for minor improvements shall extend at least 12 inches below grade, have a minim width of 12 inches and may use an allowable bearing pressure of 800 psf in design. The recommended bearing pressure is for total dead plus live loads and may be increased by one-third for wind, seismic or other transient loading conditions. Structural reinforcement shall satisfy the minimum building code requirements and shall be designed by a structural engineer. The footings shall be stiffened with additional reinforcement to facilitate potential re-leveling.

The recommendations presented in Section 3.3.2.3 for resistance to lateral loads are considered applicable for minor improvements.

3.4.1.2 Pole Foundations for Improvements in the Landfill Cap

Light standards and tall pole type improvements are anticipated to be supported on relatively short pole-type or short drilled pier foundations. The downward capacities of pole type foundations may be determined by using an allowable friction value of 200 pounds per square foot for the landfill cap materials or an allowable end bearing pressure of 800 psf. The lateral resistance of pole type foundations may be evaluated using the pole formula in the Los Angeles Building Code. When using the pole formula, the lateral resistance of the soils may be assumed to be equal to that developed by a fluid with density of 200 pounds per cubic foot.

3.4.1.3 Settlement Considerations for Improvements with the Landfill Cap

Settlement of minor structures located outside the limits of the landfill is anticipated to consist of consolidation settlement due to foundations loads and seismic induced settlement as discussed for permanent structures supported on similar materials. Settlement of improvements located within the landfill is anticipated to impacted by settlement of the landfill cap due to compression and decomposing of the underlying landfill refuse, compression and hydroconsolidation of the landfill cap materials. Settlement of the landfill cap is considered to be ongoing with varying magnitudes. Total and differential settlement significantly exceeding, that which is typically anticipated for similar structures supported on stable ground, should be anticipated. Design and planned maintenance of foundations constructed within the landfill cap area shall include considerations for releveling, lifting and replumbing structures that experience significant total and/or differential settlement.

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3.5 EARTHWORK

3.5.1 General

Site preparation and earthwork operations shall be performed in accordance with the applicable codes, safety regulations and other local, state or federal specifications. All references to maximum unit weights are established in accordance with ASTM Standard Test Method (ASTM D-1557-91).

Based on Kleinfelder's recent site investigation, undocumented fill of various depths below grade were observed at various locations. All undocumented fill shall be considered unsuitable for the support of foundations, slabs, or additional engineered fill. The proposed permanent structures are comprised of single-story lightly loaded structures for concession stands, restrooms and the new flare station. These are all proposed for sites outside of the landfill perimeter. Undocumented fills are known to be present at the proposed structure locations. However, these fills are anticipated to be relatively thin outside the limits of the landfill. The thickness of the fill on the south side of the restroom building along Sheldon Street was found to be relatively thick. This was also found in the borings drilled by the Division of Standards just outside the existing methane gas collection facility. We recommend that this restroom building be relocated further north/northeast to avoid future settlement problems. The buildable limits of the proposed flare will be addressed in the final compaction report. As discussed previously, the location of the edge of the landfill near the restroom building along Sheldon Street is recommended to be determined during grading in order to establish the final location of the structure over shallow native soils. The proposed buildings shall be underlain by engineered fill over the dense native soils.

All building sites shall be over-excavated a minimum of 5 feet below the existing grade to expose natural soils. If natural soils are not encountered, the overexcavation of the fill soils shall be deepened to expose competent native soils that, in the judgment of the Geotechnical Engineer of Record or his representative, are suitable for support of the proposed structure. The Geotechnical Engineer or his representative shall direct the grading such that the structural fill is founded on natural ground. A representative of the Geotechnical Engineer shall approve the bottom of the removal prior to placement of fill.

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Stockpiling of fill over high settlement potential areas will pre-load the underlying trash and may result in less future settlement; however, pre-loading is not anticipated to arrest or mitigate against future settlement of the landfill cap.

Following completion of grading, a compaction report is required to be prepared by GED that will provide documentation of the fill, recommendations for foundation support, and recommendations for locations of buildings outside the limits of the landfill. This report may take up to 2 weeks to prepare by GED and may take on the order of 2 weeks for the Grading Division to review. This time should be included in the construction schedule between completion of the building pads and approval by grading division to construct foundations.

3.5.2 Site Preparation and Overexcavation

Except for the landscape areas, the site should be cleared and grubbed of all debris and other deleterious materials prior to grading. Stripping of the site in areas to receive fill shall include surificial soils that have been impacted with organics as a result of previous disking operations for fire mitigation and site maintenance. The surficial soils to a depth of approximately 18 to 24 inches are anticipated to contain significant organics. Soils with organic contents greater than 3 percent shall not be used as fill below structures or placed in other areas to receive engineered fill. Organic rich soils may be placed in designated landscape areas. All undocumented fill and loose, compressible or otherwise unsuitable soils (fill or native) shall be removed from the areas of the proposed structures to the minimum depths summarized below:

- Below permanent structures outside the limits of the landfill, the overexcavation of existing fill shall extend at least 5 feet below existing grades or at least to expose competent native soils, whichever is deeper. The overexcavation shall extend horizontally beyond the edge of the building foundations at least 4 feet or a distance equivalent to the thickness of the resulting fill below foundations, whichever is greater. Engineered fill below the permanent structures shall be compacted to at least 95 percent relative compaction.
- Below the athletic fields and improvements within the limits of the landfill cap, the overexcavation of existing fill shall extend at least 5 feet below proposed grades. The overexcavation shall extend horizontally beyond the edge of the improvements at least 5 feet. Compacted fill within the landfill cap shall be compacted to at least 90 percent relative compaction.

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- Improvements within the landfill cap shall be founded within the 5 feet thick compacted fill. This includes hardscape, benches, bleachers, aboveground dugouts, walkways, picnic areas and other miscellaneous concrete slabs. Overexcavation of existing fill below improvements within the landfill cap shall extend horizontally beyond the edge of foundations for minor improvements at least 5 feet

- Below hardscape outside the landfill limits, the overexcavation of existing fill shall extend to the natural soils or at least 3 to 5 feet below finish grades. The overexcavation shall extend horizontally beyond the edge of the improvement at least 5 feet.

- Below pavements, gravel drives and parking areas outside the limits of landfill, and new entrance lanes in the adjacent city streets, the overexcavation of existing fill shall extend to the natural soils or at least 2 feet below finish grades. The overexcavation shall extend horizontally beyond the edge of the improvement at least 2 feet.

- Pavements, gravel drives and parking areas within the landfill cap shall be founded within the 5 foot thick compacted fill.

Following overexcavation of the existing fill materials below minor improvements within the landfill, existing undocumented fills will likely remain. As discussed previously, where existing fill materials are left in place, additional settlement should be anticipated.

In structural areas, additional removals shall be performed until a firm, unyielding bottom is achieved to the satisfaction of the Geotechnical Engineer. A representative of GED shall observe and approve the bottoms of overexcavations prior to placing fill. The bottom of the approved overexcavation shall be surveyed by a licensed land survey to document the limits and depth relative to the proposed building location.

Following removals, areas to receive fill in shall be scarified to a minimum depth of 6 inches. The exposed soils shall be moisture conditioned to at least 2 percent wet of optimum moisture content and compacted to the minimum specified compaction. Bottoms in areas to receive structural engineered fill structural areas shall be compacted to at least 95 percent relative compaction and areas within the landfill cap to receive compacted fill shall be compacted to at least 90 percent relative compaction.

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3.5.3 Engineered Fill and Compacted Fill

We anticipate that most of the on-site soils will be reusable as structural engineered fill or compacted within the landfill cap area after any vegetation, construction debris and deleterious material are removed from the excavated materials. Compacted fill for the landfill cap shall be compacted by using sheepsfoot rollers. Below structures, engineered fill consisting of granular soils shall be compacted using vibratory equipment. All earthwork operations shall be observed and tested by a representative of GED.

3.5.3.1 Engineered Fill Below Structural Foundations And Paved Areas

Engineered granular fill below structures, pavements and gravel parking areas shall have no particles greater than 4 inches in diameter and be placed in lifts no greater than 8 inches thick (loose measurements). Soils shall be moisture conditioned to within 2 percentage points of the optimum moisture content and shall be compacted to at least 95 percent of the maximum dry unit weight obtained by the ASTM D1557 method of compaction.

3.5.3.2 Compacted Fill Below Athletic Fields and Within Landfill Cap Areas

In the athletic fields and landscape areas of the site, the landfill cap shall be graded so that all areas have a minimum compacted pad of 5 feet thick. This work shall be conducted where miscellaneous improvements such as benches, bleachers, above ground dugouts, walkways, other hardscape, and picnic table areas are planned over the landfill cap as well. The new fill soils shall be moisture conditioned to within 2 percentage points of the optimum moisture content and compacted to at least 90 percent relative compaction. As stated above, prior to placing compacted fill in these areas, the upper 18 to 24 inches of existing soil shall be removed and cleared of any delcterious material prior to being used for compacted fill.

3.5.4 Excavation Characteristics

Conventional construction and earth moving equipment should be capable of performing all excavations. The grading contractor should be aware of the potential to encounter buried foundations or construction debris that may require equipment to cut or break it prior to removing.

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All excavations must comply with applicable local, state, and federal safety regulations including the current OSHA Excavation and Trench Safety Standards. Construction site safety generally is the sole responsibility of the Contractor, who shall also be solely responsible for the means, methods, and sequencing of construction operations. We are providing this information solely as a service to our client. Under no circumstances shall the information provided be interpreted to mean that Kleinfelder or the City of Los Angeles is assuming responsibility for construction site safety or the Contractor's activities; such responsibility is not being implied and should not be inferred.

The Contractor shall be aware that slope height, slope inclination, or excavation depths (including utility trench excavations) should in no case exceed those specified in local, state, and/or federal safety regulations (e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations).

3.5.5 Temporary Excavations in Proposed Compacted Fill

Shallow, temporary utility trench excavations are anticipated for installation of required utility lines. The following recommendation only apply to the proposed fill for the new landfill cap and structural fill as discussed above. All vertical or steeply sided trench excavations greater than 5 feet in depth shall be braced or shored, or the portion above 5 feet shall be sloped at a gradient of 1½:1(h:v). All temporary grading and shoring shall be performed in accordance with good construction practice and all applicable safety ordinances and codes. If the soil conditions are less favorable than anticipated, the aforesaid 5 feet vertical height criteria shall be reduced at the discretion of the Geotechnical Engineer.

Heavy construction loads, such as those resulting from stockpiles and heavy machinery, shall be kept back from the top of the excavation a distance equal to the depth of the excavation. All surface water shall be diverted away from excavations.

Vertical or near vertical excavations in excess of 5 feet shall be shored in accordance with the OSHA standards (Construction Standards for Excavations, 29 CFR Part 1926, Subpart P, latest revision) to provide temporary trench stability during construction. The trench shoring shall be designed for an equivalent fluid pressure of 30 pounds per cubic foot. The contractor is responsible for the structural design and safety of the shoring system. All shoring design shall be performed by a registered Structural Engineer. If the grading is conducted by City Forces, the Bureau of Engineering, Structural Division, shall be contacted for shoring design

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3.5.6 Pipe Bedding and Trench Backfill

The site soils, upon satisfactory removal and recompaction of undocumented fill, are considered suitable for supporting the planned project utilities. Pipe bedding shall consist of sand or similar granular material having a minimum sand equivalent value of 30. The sand shall be placed in the "pipe zone" that extends a minimum of six inches below and 12 inches above the pipe for the full trench width. Pipe zone materials shall be jetted or washed under the haunches of the pipe. This is the only zone of backfill where jetting will be allowed. The bedding material shall be compacted to a minimum of 90 percent relative compaction or as approved by the Geotechnical Engineer.

All trench backfill shall be placed in lifts not to exceed 8 inches in loose thickness and shall be compacted by mechanical means to at least 90 percent relative compaction. The moisture content of compacted backfill soils shall be within two percent of the optimum. The maximum dry density and optimum moisture content of backfill soils shall be obtained in accordance with ASTM D-1557-91. Laboratory testing will be required in order to evaluate the suitability of on-site soils intended to be used as bedding materials.

3.5.7 Earthwork Observation and Testing

Observation and testing of the earthwork is considered a continuation of this investigation and shall be conducted to evaluate construction of the building pads and other geotechnical aspects of construction. A representative of the Geotechnical Engineer shall observe and test the following:

- Stripping and clearing operations below structures, areas to receive fill, and other site improvements to assess the removal of unsuitable materials; the depth of stripping and clearing will be determined by the Geotechnical Engineer.
- Overexcavation of the existing fill below structures, areas to receive fill, and other site improvements to assess the removal of the existing fill; the depth and lateral extent of overexcavation will be determined by the Geotechnical Engineer.
- Evaluate the exposed subgrade in areas to receive fill and delineate areas requiring deeper overexcavation due to unsuitable soils or unremoved fill;

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- Evaluate import source materials, if needed, for conformance with the recommendations presented in this report; and,
- Observe and perform field density testing of engineered fill and backfill.

3.6 FLOORS FOR PRIMARY STRUCTURES

We understand that floors for the proposed permanent structures may consist of slab on grade floors or raised floors supported on shallow foundations. Recommendations both floor types are presented herein. Selection of the floor type is anticipated to be impacted by the type and level of methane gas mitigation applied to the individual structures.

3.6.1 Slab on Grade Floors for Primary Structures

It is our opinion that concrete slab-on-grade floors may be used for the proposed permanent structures. The slab-on-grade shall be underlain by at least 5 feet of engineered fill prepared as described in Section 3.4.

Concrete floor slabs shall have a minimum nominal thickness of 5 inches. All slab-on-grade thicknesses and reinforcements shall be designed for any specific loading conditions by the Project Structural Engineer. A modulus of subgrade reaction of 300 kips/ft^3 shall be used for design.

Based on the soils encountered in our explorations, we do not anticipate that expansive soils will be present below pads following grading. However, at the completion of grading, the finished pad shall be evaluated for the presence of expansive soils and as deemed necessary by the Geotechnical Engineer, representative samples of the materials shall be tested for expansion potential.

The floor slab shall be underlain by 4 inches of crushed rock or aggregate base material to provide more uniform support of the slab and provide a capillary moisture break between the subgrade soils and the bottom of the floor slab. All areas adjacent to buildings, including planters, shall be designed to drain away from the structure to avoid an accumulation of water beneath the slab or footings. If a methane mitigation system is required then the 4 inch crushed rock layer shall be incorporated into the mitigation system, not in addition to it.

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3.6.2 Raised Floor Slab for Primary Structures

Raised floor slabs if used, shall be supported by continuous foundations. For this purpose, foundations shall be designed and eonstruction as recommended in section 3.3.2.

3.7 WALLS BELOW GRADE

Minor retaining walls may be incorporated into design of landscape elements. The following lateral earth pressure values for level or sloping backfill are provided in terms of equivalent fluid unit weight (pounds per cubic foot (pcf) and shall be used in design of retaining structures backfilled with drainage materials and native onsite soils.

Table 2
Lateral Earth Pressures

Conditions	Equivalent Fluid Unit Weight (pcf) Ascending Backfill Slope Inclination (Drained Condition)		
	Level	2:1 Slope*	1.5:1 Slope*
Active	35	55	65
At-Rest	55	80	120
Passive	300	300	300

*Horizontal:Vertical

Unrestrained (yielding) eantilever elements shall be designed for an aetive equivalent fluid density value provided above. In the design of restrained (non-yielding) walls, curved walls without joints or restrained wall corners, where the top of the wall is not expected to move laterally more than 0.001H, (where H is the unbalanced wall height), the at-rest pressures shall be used. If tilting of wall segments is aeceptable and construction joints are provided at all angle points and frequently along curved wall segments, preferably not exceeding 15 feet, the active pressure shall be used. The above values assume non-expansive backfill and free-draining conditions.

In addition to the above lateral forees due to retained earth, surcharge due to improvements, such as an adjacent structure, shall be considered in the design of the retaining structures. Loads applied within a 1:1 projection from the surcharging strueture on the stem of the retaining wall shall be considered as lateral sureharge. For lateral surcharge conditions, a horizontal load equal to 50 percent of the vertieal load, as a minimum shall be used. This horizontal load shall be applied below the 1:1 projection plane.

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All retaining structures shall be provided with a drainage system to reduce the potential for hydrostatic pressure behind the wall. If drainage cannot be provided over the full depth of the wall, then the equivalent fluid unit weight shall be increased by 63 pcf within the depth that is not drained.

3.8 SITE DRAINAGE

Foundation and slab performance will be impacted by how the runoff waters drain from the site. Positive drainage shall be provided to direct the flow of water away from structures and the site. Adequate provisions shall be made to control and limit moisture changes in the subgrade beneath foundations and slabs. These may include positive drainage away from building foundations with a minimum gradient of 2 percent and sloping of landscape planters to drain away from structures. Roof water should be directed to fall on hardscape areas sloping to an area drain, or roof gutters, and downspouts should be installed.

Due to ongoing settlement of the landfill cap, surface drainage that rely on gravity flow is likely to be impacted and shall be periodically maintained so that water is not allowed to collect and pond. It is anticipated that the ongoing settlement of the landfill area will be significantly affected by the amount of percolation through the landfill cap.

In athletic fields, landscape areas on the landfill cap, where large differential settlement is anticipated, additional drainage gradient shall be provided to alleviate and reduce potential maintenance of future drainage problems. Large differential settlement is also anticipated in the area for the baseball diamonds that is located across the buried cut/fill transition zone. Steeper drainage gradient (on the order of 3%) is recommended to reduce potential maintenance of future drainage problems. Please note that even with a final graded 3% gradient, maintenance of the site grades and surface drainage conditions will need to be monitored and periodically performed to reduce the potential for accelerating the ongoing settlement.

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3.9 BURIED UTILITIES

Buried utilities in the landfill cap shall be designed and maintained to accommodate settlement and differential settlement of the landfill cap. The maintenance program for the buried utilities shall include a means of monitoring the gradient and differential movement of the buried utilities. Gravity flow drainage lines that direct runoff from the interior of the landfill cap to the perimeter site storm drain system shall be over steepened (approximately 3% gradient) as feasible to reduce the potential for reverse flow conditions. A maintenance hole shall be constructed on dense native soils outside the limits of the landfill to provide a transition between the portions of the stormdrain within and outside the landfill cap. Maintenance of this line may require periodic raising or local replacement in order to maintain positive flow to the perimeter of the site.

3.10 PRELIMINARY CORROSION POTENTIAL

Based on the results of three corrosivity tests, the on site soils are likely to have a low corrosion potential to buried concrete and a moderate to severe corrosion potential to buried metals. Kleinfelder is not a corrosion engineering firm. The above mentioned tests were conducted at the request of the client and the preliminary conclusions are based on limited assessment of the potential soil corrosion conditions that the soil types encountered may represent. A qualified corrosion engineer shall be consulted to further evaluate the corrosion characteristics of the site soils as deemed necessary by the Geotechnical Engineer of Record.

3.11 PLAN REVIEW AND CONSTRUCTION OBSERVATION

The final grading and foundation plans shall be reviewed by the Geotechnical Engineer of record to evaluate the plans for conformance with the recommendations included herein and to provide updated recommendations as necessary for the current design.

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4 ADDITIONAL SERVICES

The construction process is an integral design component with respect to the geotechnical aspects of a project. Because geotechnical engineering is an inexact science due to the variability of natural processes and because we sample only a small portion of the soils affecting the performance of the proposed structure, unanticipated or changed conditions can be disclosed during grading. Proper geotechnical observation and testing during construction is imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, we recommend that the Geotechnical Engineer of Record be retained during construction of the proposed improvements to observe compliance with the design concepts and geotechnical recommendations, and to allow design changes in the event that subsurface conditions or methods of construction differ from those assumed while completing this study.

The geotechnical engineer should be afforded the opportunity to review the plans and specifications prepared for any remedial construction to verify that the intent of our recommendations have been incorporated into the design. If we are not requested to perform this review, we cannot be held accountable for misinterpretation of our recommendations.

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5 LIMITATIONS

This report has been prepared for the exclusive use of City of Los Angeles, Department of Public Works/Geotechnical Engineering Division and their agents for specific application to the proposed development in the City of Los Angeles, California. The findings, conclusions and recommendations presented in this report were prepared in accordance with generally accepted geotechnical engineering practice and are not intended to be used for design of the proposed improvements. No other warranty, expressed or implied, is made.

The scope of our geotechnical services for this assignment did not include any environmental site assessment for the presence or absence of hazardous/toxic materials in the soil, surface water, groundwater or atmosphere, or the presence of wetlands. Screening of the headspace of the soil samples was conducted with a Photo Ionization Detector (PID) and a Lower Explosive Limit (LEL) Monitor. Chemical laboratory tests were performed and are presented in this report as requested by GED

The client has the responsibility to see that all parties to the project, including the designer, contractor, subcontractors, etc., are made aware of this report in its entirety.

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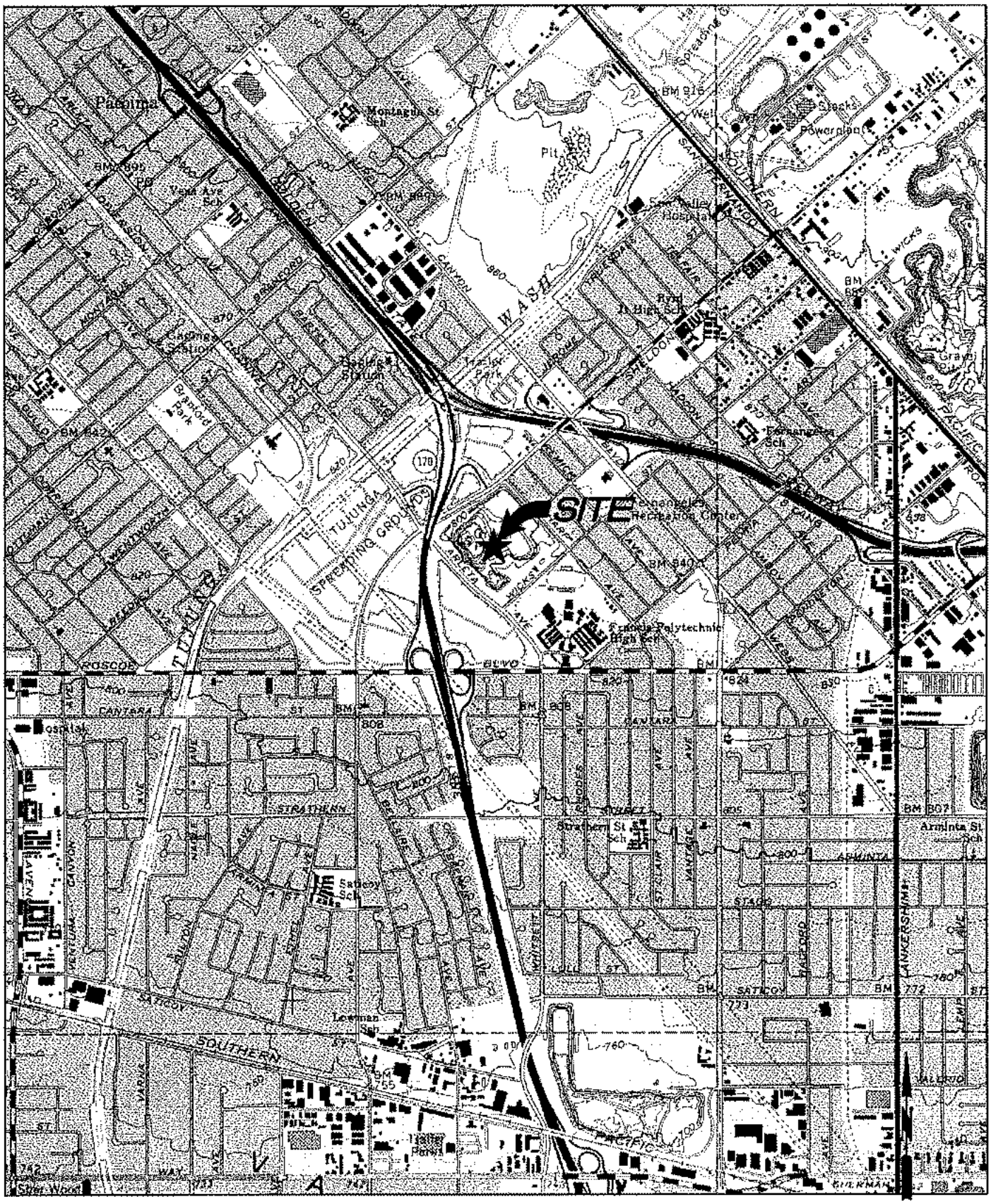
PLATES



SOURCE: U.S.G.S. 7.5' topographic series, Van Nuys, California quadrangle dated 1966, photorevised 1972.

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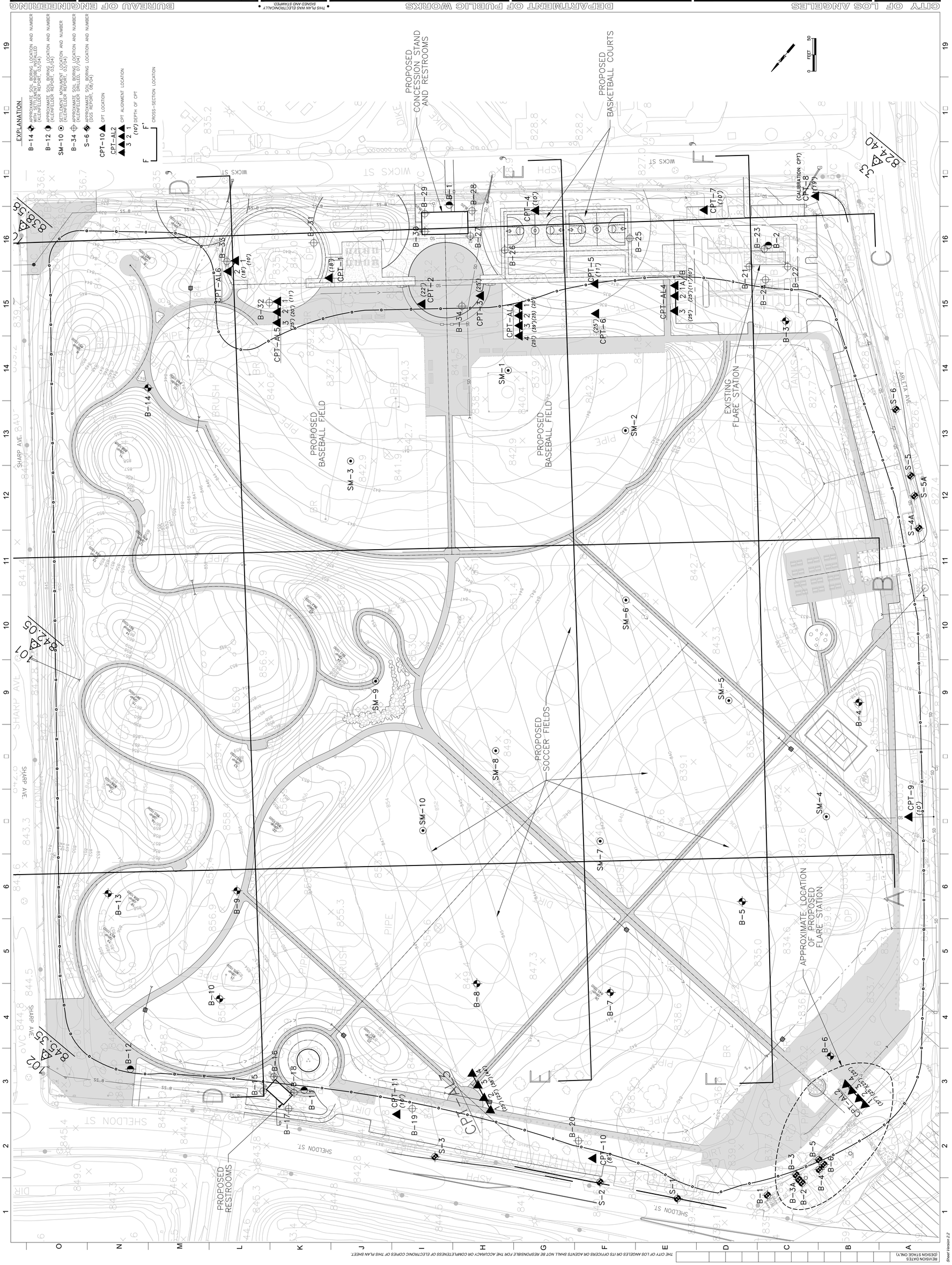
SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California

Project: 46824 August 2004

SITE LOCATION MAP

PLATE
1



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DESIGN GROUP DATE:
ENGINEER: LIC. NO.
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SHEET TITLE: PLOT PLAN
PROJECT: SHELDON ARLETA PARK
ADDRESS: 12455 WICKS STREET SUNVALLEY, CA.

JON KIRK MUKRI GENERAL MANAGER
DEPARTMENT OF RECREATION & PARKS

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SHEET OF SHEETS

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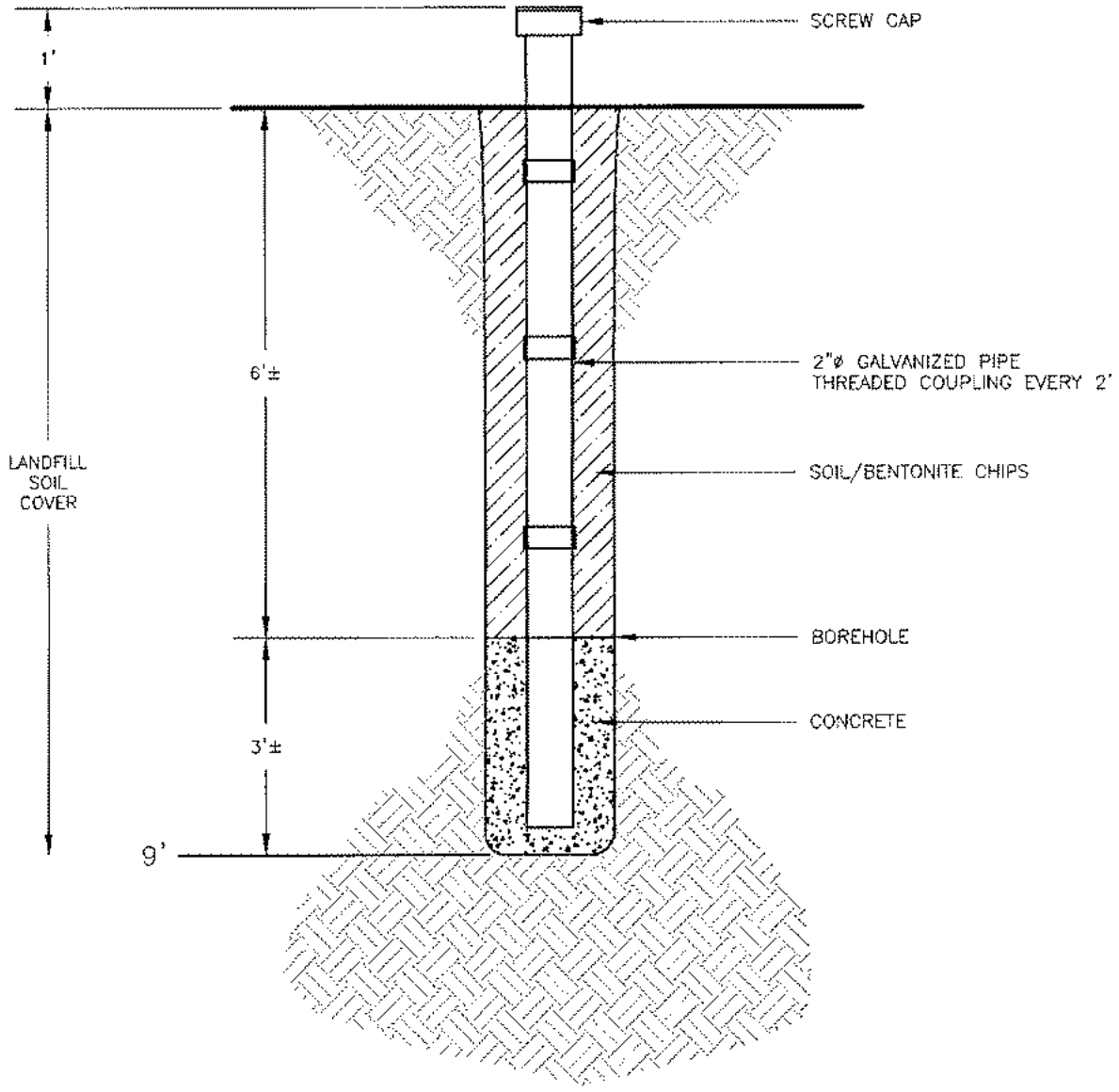

NOT TO SCALE

NOTE: * DETAILS OF INDIVIDUAL "B" SERIES SETTLEMENT MONUMENTS ARE PRESENTED IN APPENDIX A.

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SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California

Project: 46824 August 2004

SETTLEMENT MONUMENT * "SM" SERIES

PLATE
3

APPENDIX A

FIELD EXPLORATION AND SETTLEMENT MONUMENTS

APPENDIX A
FIELD EXPLORATION AND SETTLEMENT MONUMENTS

GEOTECHNICAL BORINGS AND 'B' SERIES SETTLEMENT MONUMENTS

The subsurface exploration program for the proposed improvements at the Sheldon-Arleta project site consisted of drilling and logging a total of thirty-four hollow-stem auger borings. The approximate boring locations are shown on Plate 2 and the logs of the borings are included in this appendix. The latitude and longitude of all boring locations were obtained by utilizing a consumer quality handheld GPS unit (Garmin GPS 12CX), and are incorporated on the boring logs.

An explanation to the logs is presented as Plate A-1. Fourteen borings, designated as B-1 through B-14, were drilled and sampled during December 2003 and January 2004 to approximate depths of 6.5 feet to 56.5 feet below existing grades. The logs of borings B-1 through B-14 are presented on Plates A-2 through A-15. Settlement monuments were constructed in ten of these borings, namely in B-3 through B-10, B-13, and B-14. Details of these ten settlement monuments are presented on Plates A-16 through A-25. During July 2004, twenty borings designated as B-15 through B-34 were drilled and sampled to approximately 20 feet below grade near the perimeter of the site along Wicks Street and Sheldon Street. The logs of borings B-15 through 34 are presented on Plates A-26 through A-35. The Logs of Borings describe the earth materials encountered, samples obtained, and show field and laboratory tests performed. The logs also show the boring number, drilling date, boring location (latitude and longitude), the name of the logger and drilling subcontractor.

The borings were drilled with a truck-mounted hollow stem CME 75 auger drill rig furnished by Prosonic Corporation of Signal Hill, California. The borings were logged by an engineer/geologist of Kleinfelder using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate. Bulk and intact samples of representative earth materials were obtained from the borings. The borings were backfilled with soil cuttings and bentonite chips

A California Sampler was used to obtain relatively undisturbed samples of the soil encountered. This sampler consists of a 3-inch O.D., 2.4-inch I.D. split barrel shaft that is driven a total of 18-inches into the soil at the bottom of the boring. The soil was retained in one-inch brass rings for

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laboratory testing. An additional two inches of soil from each drive remained in the cutting shoe and was usually discarded after visually classifying the soil. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs. The California sampler was driven by a 140-pound hammer with a drop height of 30 inches.

Disturbed samples were obtained using a Standard Penetration Sampler (SPT). This sampler consists of a 2-inch O.D., 1.4-inch I.D. split barrel shaft that is advanced into the soils at the bottom of the drill hole a total of 18-inches. The number of blows required to drive the sampler for final 12 inches is presented on the Logs of Borings. The SPT sampler was driven by a 140-pound hammer with a drop height of 30 inches. Soil samples obtained by the SPT were stored in plastic ziplock bags. Bulk samples of the sub-surface soils were retrieved directly from the soil cuttings.

Soil samples obtained were screened in the field using a H-nu Systems Model HW-101 Photo Ionization Detector (PID) and a Gastech Model HT402 LEL/02/H2S meter (LEL). The PID and LEL measurements of the headspace for the SPT samples were obtained from the samples placed in plastic bags and are shown on the logs. The PID measurements of the headspace for the California type samples were obtained from materials placed in plastic bags.

Other environmental related field sampling items are discussed in Appendix D.

CONE PENETRATION TESTING

Our Cone Penetration Testing (CPT) testing program, consisting of thirty-two tests, was conducted on April 27 and 28, 2004. The approximate locations of CPTs are shown on Plate 2. For calibration purposes, one 25-foot deep CPT sounding (i.e., CPT-08) was performed outside the perimeter of the landfill pit on native ground near the intersection of Wicks Street and Arleta Avenue. At each of the three proposed building sites, a series of four CPTs were conducted along an alignment assumed to be perpendicular to the underlying landfill pit boundary line. Based on GED requirements, attempt was made to test one of the four CPT soundings up to a

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depth of 50 feet below the existing ground surface. All other CPT soundings, excepting those for proposed pavement areas, were planned to be 25 feet or less in depth. CPT soundings were terminated short of 25 feet for the following reasons:

- Refusal to the cone.
- Obvious fill or trash at a depth of more than 10 feet.
- Obvious natural soil for more than 10 feet.
- A maximum depth of 25 feet.

A set of four CPTs was performed along three alignments, namely, AL-1, AL-2, and AL-3, across the three proposed structure locations. Three other alignments were tested by performing two to three CPT soundings, namely, AL-4 in the proposed children's play area, and, AL-5 and AL-6 in the proposed basketball court area, Five CPTs (CPT-4, CPT-7, CPT-9, CPT-10, and CPT-11) were performed in the proposed parking areas.

The latitude and longitude of all CPT locations were obtained by utilizing a consumer quality handheld GPS unit (Garmin GPS 12CX), and are incorporated on the CPT logs.

SM SERIES SETTLEMENT MONUMENTS

Ten shallow settlement monuments, namely, SM- 1 through SM-10, were installed using a hollow stem auger rig on April 28, 2004. These monuments were designed to continue to function with grade changes of at least 5 feet due to planned grading. The tip of these settlement monuments was founded at approximately 9 feet below the current grade to provide the allowance for cut grading, and to assure their durability and functional stability for future use. Plate 1 shows the approximate locations of the proposed settlement monuments. A schematic design of the monument is presented on Plate 3.

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Date Drilled:
Drilled By:
Drilling Method:
Logged By:

Water Depth:
Date Measured:
Reference Elevation:
Datum:

Elevation (feet) Depth	Sample	Sample No.	Blow Count (Blows/ft.)	Graphic Log	GEOTECHNICAL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1	6			108	10	DS, SE
		2	12					GS
5								
	(1)	(2)	(3)	(4)	(5)	(6)	(6)	(7)
10								

NOTES ON FIELD INVESTIGATION

1. SAMPLE - Graphical representation of sample type as shown below.
   - Split Spoon - Standard Penetration Test Sample (SPT)
   - Drive Sample - California Sample (Cal)
   - Bulk Sample - Obtained by collecting cuttings in a plastic bag
   - Tube Sample - Shelby/Pitcher Tube Sample

2. SAMPLE NO. - Sample Number

3. BLOWS/FT - Number of blows required to advance sampler 1 foot (unless a lesser distance is specified). Samplers in general were driven into the soil at the bottom of the hole with a standard (140 lb) hammer dropping a standard 30 inches. Drive samples collected in bucket auger borings may be obtained by dropping non-standard weight from variable heights. When a SPT sampler is used the blow count conforms to ASTM D-1586.

   SCR/ROD - Sample Core Recovery (SCR) in percent (%) and Rock Quality Designation (RQD) in percent (%). RQD is defined as the percentage of core in each run which the spacing between natural fractures is greater than 4 inches. Mechanical breaks of the core are not considered.

4. GRAPHIC LOG - Standard symbols for soil and rock types, as shown on plate B-1b.

5. GEOTECHNICAL DESCRIPTION

   Soil - Soil classifications are based on the Unified Soil Classification System per ASTM D-2487, and designations include consistency, moisture, color and other modifiers. Field descriptions have been modified to reflect results of laboratory analyses where deemed appropriate.

   Rock - Rock classifications generally include a rock type, color, moisture, mineral constituents, degree of weathering, alteration, and the mechanical properties of the rock. Fabric, lineations, bedding spacing, foliations, and degree of cementation are also presented where appropriate.

   Description of soil origin or rock formation is placed in brackets at the beginning of the description where applicable, for example, Residual Soil.

6. DRY DENSITY, MOISTURE CONTENT: As estimated by laboratory or field testing.

7. ADDITIONAL TESTS - (Indicates sample tested for properties other than the above):

MAX - Maximum Dry Density	SG - Specific Gravity	PP - Pocket Penetrometer
GS - Grain Size Distribution	HA - Hydrometer Analysis	WA - Wash Analysis
SE - Sand Equivalent	AL - Atterberg Limits	DS - Direct Shear
EI - Expansion Index	RV - R-Value	CP - Collapse Potential
CHEM - Sulfate and Chloride Content, pH, Resistivity	CN - Consolidation	UC - Unconfined Compression
PM - Permeability	CU - Consolidation Undrained Triaxial	T - Tervane
UU - Unconsolidated Undrained Triaxial	CD - Consolidated Drained Triaxial	

8. ATTITUDES - Orientation of rock discontinuity observed in bucket auger boring or rock core, expressed in strike/dip and dip angle, respectively, preceeded by a one-letter symbol denoting nature of discontinuity as shown below.

   B: Bedding Plane J: Jointing C: Contact F: Fault S: Shear

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EXPLANATION OF LOGS

PLATE
A-1a

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

PRIMARY DIVISIONS			GROUP SYMBOLS	SECONDARY DIVISIONS
COARSE-GRAINED SOILS — MORE THAN HALF OF MATERIALS IS LARGER THAN #200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN #4 SIEVE	CLEAN GRAVELS (LESS THAN) 5% FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVEL WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN #4 SIEVE	CLEAN SANDS (LESS THAN) 5% FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS — MORE THAN HALF OF MATERIALS IS SMALLER THAN #200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
	HIGHLY ORGANIC SOILS		PT	PEAT, MUCK AND OTHER HIGHLY ORGANIC SOILS
TYPICAL FORMATIONAL MATERIALS	SANDSTONES		SS	
	SILTSTONES		SH	
	CLAYSTONES		CS	
	LIMESTONES		LS	
	SHALE		SL	

CONSISTENCY CRITERIA BASED ON FIELD TESTS

RELATIVE DENSITY: COARSE-GRAINED SOIL

RELATIVE DENSITY	SPT * (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	0 - 15
Loose	4 - 10	15 - 35
Medium Dense	10 - 30	35 - 65
Dense	30 - 50	65 - 85
Very Dense	>50	85 - 100

CONSISTENCY: FINE-GRAINED SOIL

		TORVANE	POCKET ** PENETROMETER
CONSISTENCY	SPT (# blows/ft)	UNDRAINED SHEAR STRENGTH (tsf)	UNCONFINED COMPRESSIVE STRENGTH (tsf)
Very Soft	<2	<0.13	<0.25
Soft	2 - 4	0.13 - 0.25	0.25 - 0.5
Medium Stiff	4 - 8	0.25 - 0.5	0.5 - 1.0
Stiff	8 - 15	0.5 - 1.0	1.0 - 2.0
Very Stiff	15 - 30	1.0 - 2.0	2.0 - 4.0
Hard	>30	>2.0	>4.0

* NUMBER OF BLOWS OF 140 POUND HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1 3/8 INCH I.D.) SPLIT BARREL SAMPLER (ASTM-1586 STANDARD PENETRATION TEST)

** UNCONFINED COMPRESSIVE STRENGTH IN TONS/SQ.FT. READ FROM POCKET PENETROMETER

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

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EXPLANATION OF LOGS

PLATE A-1b

Date Drilled:	1/20/04	Water Depth:	> 6.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hand Auger 4"	Approximate Elevation:	832.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		6			**Artificial Fill (Af):**			RV, CHEM
830		B-1 -2.5	21		**Poorly Graded Sand (SP):** brown, dry, medium dense, fine to coarse grained, trace silt ND VOC, 0% LEL, ND H2S		0.5	
5		B-1 -5	15		ND VOC, 0% LEL, ND H2S		0.5	
					Boring terminated at 6.5 feet. Groundwater not encountered. Boring backfilled with bentonite chips.			
					Location of Boring: Degrees, minutes, seconds, 34, 13, 31.6 N 118, 24, 17.8 W			
					Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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PROJECT NO. 39117

Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-1

PLATE
A-2

Explanation To Logs On Plate A-1

Date Drilled:	1/20/04	Water Depth:	> 6.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hand Auger 4"	Approximate Elevation:	828.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		5			**Artificial Fill (Af):**			CHEM
825		B-2 -2.5	29		**Gravelly Sand with Silt (SP-SM)** light brown, slightly moist, medium dense, fine to coarse grained, fine to medium gravel ND VOC, 0% LEL, ND H2S		2.0	
5		B-2 -5	24		**Poorly Graded Sand (SP)** brown, slightly moist, medium dense, fine to coarse grained, trace fine to medium gravel ND VOC, 0% LEL, ND H2S		8.7	

Boring terminated at 6.5 feet.
Groundwater not encountered.
Boring backfilled with bentonite chips.

Location of Boring:
Degrees, minutes, seconds,
34, 13, 29.4 N
118, 24, 21.9 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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PROJECT NO. 39117

Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-2

PLATE
A-3

Explanation To Logs On Plate A-1

Date Drilled:	12/22/03	Water Depth:	> 41.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	12/22/2003
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	834.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-3 0-2			**Artificial Fill (Af):** **Silty Sand (SM):** brown, dry, fine to medium grained, trace coarse sand, with fine to coarse gravel ND VOC, 0% LEL, ND H2S			
	B-3 -2.5	22		---@2.5 feet; medium dense	112	13.1	
830				**Sandy Clay (CL):** brown, slightly moist, very stiff, fine to medium sand, trace coarse sand ND VOC, 0% LEL, ND H2S.	112	12.2	
5	B-3 -5	26					
	B-3 5-7	22		**Clayey Sand (SC):** brown, moist, medium dense, fine to medium grained, trace gravel and coarse sand ND VOC, 0% LEL, ND H2S.	102	4.2	
825	B-3 -7.5						
10	B-3 -10	7		--- olive gray, moist, loose ND VOC, 0% LEL, ND H2S.			CN
820				**Clayey Sand (SC):** olive-brown, moist, medium dense, fine to medium sand ND VOC, 0% LEL, ND H2S.	111	13.5	WA, HA
15	B-3 -15	29					
815				**BOTTOM OF FILL CAP AT 18 FEET** **Landfill Debris with Sandy Clay (PT):** dark gray to black, moist, approximately 50-70% landfill debris, some odor ND VOC, 0% LEL, ND H2S.			
20	B-3 -20	16		**Landfill Debris with Clayey Silty Sand (PT-SM):** gray, very moist, medium dense, fine to medium grained, with plastics, paper, and wood ND VOC, 11% LEL, ND H2S.			
810				**Landfill Debris with Sandy Clay (PT-CL):** light brown, moist, very stiff, fine to medium sand, with plastics, glass, and organics, approximately 10-20 % landfill debris ND VOC, 3% LEL, ND H2S.			
25	B-3 -25	21					
805							
30	B-3 -30	50/6"		--- black, increase in landfill debris			
800				**Landfill Debris (PT):** black, moist, approximately 30% fill and 70% landfill debris, some odor ND VOC, 4% LEL, ND H2S			

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Proposed Athletic Fields
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Los Angeles, California

LOG OF BORING B-3

PLATE
A-4a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		B-3 -35	50/6"		--- 16.3 ppm VOC, 3% LEL, ND H2S, approximately 100% landfill debris			
795 40		B-3 -40	84		--- 0.8 ppm VOC, 11% LEL, ND H2S, approximately 30% fill and 70% landfill debris			
					Boring terminated at 41.5 feet. Groundwater not encountered. Boring converted to settlement monument.			
					Location of Boring: Degrees, minutes, seconds, 34, 13, 30.2 N 118, 24, 23.7 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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Proposed Athletic Fields
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LOG OF BORING B-3

PLATE
A-4b

Explanation To Logs On Plate A-1

Date Drilled:	1/20/04	Water Depth:	> 31.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	832.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
830		3			**Artificial Fill (Af):** **Silty Sand (SM):** brown, dry to slightly moist, fine to coarse grained, trace clay ND VOC, 0% LEL, ND H2S			
		B-4 -2.5	35		---@2.5 feet: medium dense	99	5.3	
5		B-4 -5	42		--- brown, dry, dense, fine to coarse grained ND VOC, 0% LEL, ND H2S.	112	8.5	CN
825		4						
		B-4 -7.5	32		ND VOC, 0% LEL, ND H2S.	100	5.4	
10		B-4 -10	N/A		--- very dark grayish brown, fine to coarse grained, with fine to coarse gravels, trace clay, brick pieces ND VOC, 0% LEL, ND H2S.	109	2.8	
820								
15		B-4 -15	39		---slightly moist, dense, brick pieces, gravels, some fine organics 3.0 ppm VOC, 0% LEL, ND H2S.			
815								
20		B-4 -20	79		--- very dense, gravels, some organics 0.4 ppm VOC, 0% LEL, ND H2S	125	0.4	
810								
25		B-4 -25	14		**Asphalt Concrete Pieces with some Organics:** dark gray, moist, approximately 30-40 % small to large asphalt pieces, wood ND VOC, 0% LEL, ND H2S.			
805								
30		B-4 -30	20		**BOTTOM OF FILL CAP AT 28 FEET** **Landfill Debris (PT):** dark gray, moist, glasses, wire, organics, approximately 100 % landfill debris 11.6 ppm VOC, 0% LEL, ND H2S.			

KLEINFELDER

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Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-4

PLATE
A-5a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
					Boring terminated at 31.5 feet. Groundwater not encountered. Boring converted to settlement monument. Location of Boring: Degrees, minutes, seconds, 34, 13, 33.5 N 118, 24, 28.4 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-4

PLATE

A-5b

Explanation To Logs On Plate A-1

Date Drilled:	1/21/04	Water Depth:	> 37.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	835.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
835		8			**Artificial Fill (Af):**			
		B-5 -2.5	37		**Silty Sand (SM):** brown, slightly moist, medium dense, fine grained, some large pieces of sandstone. ND VOC, 0% LEL, ND H2S.	114	2.7	
830 5		B-5 -5	14		--- dark brown, medium dense, fine to coarse grained, trace clay ND VOC, 0% LEL, ND H2S.	102	6.1	
		9						
		B-5 -7.5	24		--- brown, medium dense, fine grained, some medium to coarse sand, trace clay and gravel ND VOC, 0% LEL, ND H2S.	117	3.8	WA
825 10		B-5 -10	8		--- moist, loose ND VOC, 0% LEL, ND H2S.	98	17.8	CN
820 15		B-5 -15	18		**Sandy Clay (CL):** black, moist, with silt and fine sand, some gravel, approximately 10% trash.	109	13.7	
815 20		B-5 -20	19		--- olive-gray, very moist, stiff, some black fine grained organic clasts and gravel. ND VOC, 0% LEL, 1 ppm H2S.			
					Sandy Fat Clay (CH): mottled olive gray and black, very moist, stiff, with fine sand, some fine gravel. ND VOC, 0% LEL, ND H2S.			
810 25		B-5 -25	13					
					--- olive-gray, with silt, odorous, approximately 40% trash (glass, plastic, paper, and grass) ND VOC, 0% LEL, ND H2S.			
805 30		B-5 -30	24		**BOTTOM OF FILL CAP AT 30 FEET** **Landfill Debris (PT):** olive gray, very moist, very stiff, paper, plastic, glass, and grass, with clay, some fine gravel, odorous.			
800								

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Proposed Athletic Fields
Sheldon - Arleta Landfill
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LOG OF BORING B-5

PLATE
A-6a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
800		B-5 -35	19		--- approximately 80% trash, mottled olive gray and black, paper, plastic, and grass, with sandy clay.			

Boring terminated 37.5 feet.
Groundwater not encountered.
Boring converted to settlement monument.

Location of Boring:
Degrees, minutes, seconds,
34, 13, 37.3 N
118, 24, 29.3 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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LOG OF BORING B-5

PLATE
A-6b

Explanation To Logs On Plate A-1

Date Drilled:	1/21/04	Water Depth:	> 21.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	832.4 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-6 0-2			**Artificial Fill (Af):**			CHEM
830	B-6 -2.5	37		**Sandy Silt (ML):** brown, slightly moist, very stiff, fine grained, with fine to medium sand. ND VOC, 0% LEL, ND H2S.	106	10.8	
5	B-6 -5	27		--- moist, very stiff ND VOC, 0% LEL, ND H2S.	112	14.3	HA, GS
825	B-6 -7.5	13		--- olive-brown, moist, stiff, trace gravel sized pieces of asphalt. ND VOC, 0% LEL, ND H2S.			
10	B-6 -10	23		ND VOC, 0% LEL, ND H2S.			
820				**Silty Sand (SM):** olive gray, moist, medium dense, fine to coarse grained, slight odor. ND VOC, 0% LEL, ND H2S.			
15	B-6 -15	52		--- moist, dense			
815				**BOTTOM OF FILL CAP AT 16 FEET** **Landfill Debris (PT):** olive gray, moist, plastic, paper, and glass, with silty sand. 10.6 ppm VOC, 0% LEL, ND H2S.			
20	B-6 -20	29		--- difficult drilling due to debris --- black, some asphalt, organics 42 ppm VOC, 9% LEL, ND H2S.			

Boring terminated 21.5 feet.
Groundwater not encountered.
Boring converted to settlement monument.

Location of Boring:
Degrees, minutes, seconds,
34, 13, 37.9 N
118, 24, 32.3 W

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Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-6

PLATE
A-7a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
					Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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LOG OF BORING B-6

PLATE

A-7b

Explanation To Logs On Plate A-1

Date Drilled:	1/23/04	Water Depth:	> 31.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	843.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		20		**Artificial Fill (Af):**			
840	B-7 -2.5	22		**Silty Sand (SM):** brown, dry to slightly moist, fine to medium grained, trace coarse sand, some gravel and brick pieces ND VOC, 0% LEL, ND H2S	112	8.2	
5	B-7 -5	31		---@2.5 feet: medium dense **Poorly Graded Sand (SP):** brown, moist, medium dense, fine to medium grained, trace coarse sand, some fine to medium gravel	94	25.4	
835	B-7 -7.5	40		ND VOC, 0% LEL, ND H2S.			
10	B-7 -10	11		**Silty Sand (SM):** brown, moist, dense, fine to medium grained, trace gravel, clay, and brick pieces ND VOC, 0% LEL, ND H2S.	106	15.8	CN
830				**Sandy Clay (CL):** olive-gray, very moist, stiff, fine to coarse sand 0.4ppm VOC, 0% LEL, 1.0 ppm H2S			
15	B-7 -15	23		--- black, moist, very stiff, trace brick pieces 1.1 ppm VOC, 1% LEL, 1 ppm H2S			
825							
20	B-7 -20	N/A		--- ND VOC, 0% LEL, ND H2S.	81	20.0	CN
820							
25	B-7 -25	17		**BOTTOM OF FILL CAP AT 25 FEET** **Landfill Debris (PT):** black, moist, paper, glass, approximately 80-90% landfill debris 53.7 ppm VOC, 1% LEL, 1 ppm H2S			
815							
30	B-7 -30	21/6"		--- 53.7 ppm VOC, 1% LEL, 1 ppm H2S, approximately 90% landfill debris			
				Boring terminated at 31.5 feet.			

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LOG OF BORING B-7

PLATE
A-8a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
					Groundwater not encountered. Boring converted to settlement monument. Location of Boring: Degrees, minutes, seconds, 34, 13, 39.4 N 118, 24, 29.0 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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LOG OF BORING B-7

PLATE

A-8b

Explanation To Logs On Plate A-1

Date Drilled:	1/26/04	Water Depth:	> 41.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/26/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	849.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) / Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	17			**Artificial Fill (Af):**			DS, MAX
	B-8 -2.5	81		**Silty Sand (SM):** brown, slightly moist, fine to medium grained, some coarse sand, some fine to coarse gravel ND VOC, 0% LEL, ND H2S ---@2.5 feet: very dense	121	3.5	
845							
5	B-8 -5	68		--- ND VOC, 0% LEL, ND H2S.			
	18						
	B-8 -7.5	87		--- ND VOC, 0% LEL, ND H2S.	116	4.6	
840							
10	B-8 -10	25		**Poorly Graded Sand (SP):** light gray, moist, medium dense, fine to coarse grained, trace silt ND VOC, 0% LEL, ND H2S			
835				**Silty Sand (SM):** gray, moist, medium dense, fine to medium grained			
15	B-8 -15	14		ND VOC, 0% LEL, ND H2S.	117	7.1	CN
830							
20	B-8 -20	11		--- black, moist, loose to medium dense, fine to medium grained, trace gravel ND VOC, 0% LEL, ND H2S	102	18.8	CN
825				**Sandy Silt (ML):** greenish gray, very moist, stiff, fine sand, trace gravel, some clay and organics ND VOC, 0% LEL, ND H2S			
25	B-8 -25	21					
820				**Sandy Clay (CL):** olive-gray, moist, very stiff, with fine sand, micaceous			
30	B-8 -30	17		ND VOC, 0% LEL, ND H2S	88	31.8	HA
815							

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Proposed Athletic Fields
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LOG OF BORING B-8

PLATE
A-9a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		B-8 -35	26		**Organic Clay (OH):** black, very moist, very stiff, with wood, approximately 10% landfill debris ND VOC, 0% LEL, ND H2S			
810					**BOTTOM OF FILL CAP AT 38 FEET**			
40		B-8 -40	14		**Landfill Debris (PT):** black, moist, paper, plastic, wood 2.6 ppm VOC, 1% LEL, 1 ppm H2S			

Boring terminated at 41.5 feet.
Groundwater not encountered.
Boring converted to settlement monument.

Location of Boring:
Degrees, minutes, seconds,
34, 13, 40.8 N
118, 24, 26.2 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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Proposed Athletic Fields
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LOG OF BORING B-8

PLATE
A-9b

Explanation To Logs On Plate A-1

Date Drilled:	1/22/04	Water Depth:	> 51.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/22/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	857.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
855		15			**Artificial Fill (Af):** **Clayey Sandy Silt (ML):** yellowish brown, dry to slightly moist, hard, some fine sand, trace fine to coarse gravel. ND VOC, 0% LEL, ND H2S.			MAX
	B-9	-2.5	42					
5	B-9	-5	30		**Sandy Clay (CL):** yellowish brown, slightly moist, very stiff, some sandstone fragments. ND VOC, 0% LEL, ND H2S.	115	14.9	HA, PI, DS, MAX
850		16			--- slightly moist, very stiff, some sandstone fragments.			
	B-9	-7.5	21		ND VOC, 0% LEL, ND H2S.	102	18.5	PI
10	B-9	-10	16		**Clayey Sand (SC):** yellowish brown, moist, fine grained, medium dense.	106	21.5	HA
845								
15	B-9	-15	32		**Silty Sand (SM):** olive-gray, moist, medium dense, fine grained, some gravel sized pieces of asphalt. 0.4 ppm VOC, 0% LEL, ND H2S.			
840								
20	B-9	-20	12		**Sandy Silt (ML):** olive-gray, moist, medium stiff, fine grained sand. 0.3 ppm VOC, 0% LEL, ND H2S.	86	10.9	CN
835								
25	B-9	-25	22		--- dark olive-gray to black, moist, very stiff, fine grained sand, trace gravel and clay. 0.1 ppm VOC, 0% LEL, ND H2S.			
830								
30	B-9	-30	25		**Sandy Clay (CL):** olive-gray, moist, very stiff, fine grained sand. ND VOC, 0% LEL, ND H2S.	109	17.1	PI
825								
					Silty Sand (SM): olive-gray, moist, medium dense, fine grained, trace clay			

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LOG OF BORING B-9

PLATE
A-10a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		B-9 -35	29		0.1 ppm VOC, 0% LEL, ND H2S.			
820					**Sandy Silt (ML):** brown, moist, stiff, fine grained sand, micaceous			
40		B-9 -40	14		ND VOC, 0% LEL, ND H2S.	105	14.3	CN
815								
45		B-9 -45	22		--- grayish brown, very stiff, trace medium to coarse sand and gravel ND VOC, 0% LEL, ND H2S.			
810								
50		B-9 -50	21		ND VOC, 0% LEL, ND H2S.			
					Boring terminated at 51.5 feet. Groundwater not encountered. Boring converted to settlement monument. Location of Boring: Degrees, minutes, seconds, 34, 13, 41.7 N 118, 24, 21.8 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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LOG OF BORING B-9

PLATE
A-10b

Explanation To Logs On Plate A-1

Date Drilled:	1/22/04	Water Depth:	> 51.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/22/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	851.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
850	13			**Artificial Fill (Af):** **Gravelly Sandy Silt (ML):** light yellowish brown, slightly moist, hard, fine to coarse sand, some fine to coarse gravel ND VOC, 0% LEL, ND H2S.			DS, MAX
	B-10 -2.5	44					
5	B-10 -5	32		**Sandy Clay (CL):** yellowish brown, moist, very stiff, fine sand ND VOC, 0% LEL, ND H2S.	102	12.0	HA, PI
845	14						
	B-10 -7.5	32		**Silty Sand (SM):** brown, slightly moist, medium dense to dense, fine to medium grained, trace gravel, coarse sand, and clay ND VOC, 0% LEL, ND H2S.	110	9.4	
10	B-10 -10	23		--- olive gray, trace organics. ND VOC, 0% LEL, ND H2S.	82	34.1	
840							
				Sandy Fat Clay (CH): black, very moist, stiff, fine grained sand, trace coarse sand. ND VOC, 0% LEL, ND H2S.			
15	B-10 -15	15			101	19.3	
835				**Silty Sand (SM):** olive gray, very moist, medium dense, fine grained, with clay ND VOC, 0% LEL, ND H2S.			
20	B-10 -20	20			114	13.1	CN
830							
25	B-10 -25	36		--- dark olive-gray, moist, dense, fine grained, trace fine gravel and clay ND VOC, 0% LEL, ND H2S.			
825							
30	B-10 -30	50		ND VOC, 0% LEL, ND H2S.			
820							
				Poorly Graded Sand (SP): dark gray, moist, medium dense, fine to coarse grained with fine to coarse gravel, trace silt			

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LOG OF BORING B-10

PLATE
A-11a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
815	B-10	-35	23		ND VOC, 0% LEL, ND H2S.			
40 / 810	B-10	-40	22		**Silty Sand (SM):** gray to black, moist, medium dense, fine to coarse grained, with fine gravel, decomposing organics, and pieces of asphalt 10.5 ppm VOC, 2% LEL, ND H2S.			
45 / 805	B-10	-45	28 50/4"		--- black, slightly moist, very dense, fine to coarse grained 24.9 ppm VOC, 0% LEL, ND H2S.			
50 / 800	B-10	-50	31		**BOTTOM OF FILL CAP AT 49 FEET** **Landfill Debris (PT):** plastic, paper, wood, and grass. 4.1 ppm VOC, 0% LEL, ND H2S.			
					Boring terminated at 51.5 feet. Groundwater not encountered. Boring converted to settlement monument. Location of Boring: Degrees, minutes, seconds, 34, 13, 43.6 N 118, 24, 23.5 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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LOG OF BORING B-10

PLATE
A-11b

Explanation To Logs On Plate A-1

Date Drilled:	1/21/04	Water Depth:	> 6.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	845.5 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
845					**Artificial Fill (Af):**			RV
		B-11 -2.5	27		**Silty Sand (SM):** yellowish brown, dry to slightly moist, medium dense, fine grained, some clay ND VOC, 0% LEL, ND H2S.	97	10.1	
840	5	B-11 -5	39		--- dense ND VOC, 0% LEL, ND H2S.	114	2.8	

Boring terminated at 6.5 feet.
Groundwater not encountered.
Boring backfilled with bentonite chips

Location of Boring:
Degrees, minutes, seconds,
34, 13, 43.2 N
118, 24, 25.8 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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LOG OF BORING B-11

PLATE
A-12

Explanation To Logs On Plate A-1

Date Drilled:	1/21/04	Water Depth:	> 6.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	845.5 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
845		11			**Artificial Fill (Af):**			
		B-12 -2.5	33		**Silty Sand (SM):** brown, dry, medium dense, fine to medium grained, some coarse sand and clay ND VOC, 0% LEL, ND H2S.	91	14.4	RV
840	5	B-12 -5	24		--- medium dense ND VOC, 0% LEL, ND H2S.			

Boring terminated at 6.5 feet.
Groundwater not encountered.
Boring backfilled with bentonite chips

Location of Boring:
Degrees, minutes, seconds,
34, 13, 44.9 N
118, 24, 23.0 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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LOG OF BORING B-12

PLATE
A-13

Explanation To Logs On Plate A-1

Date Drilled:	1/23/04	Water Depth:	> 32 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/23/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	851.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
850		19			**Artificial Fill (Af):**			
		B-13 -2.5	33		**Sandy Clay (CL):** brown, moist, fine grained sand, with fine to coarse gravel ND VOC, 0% LEL, ND H2S ---@2.5 feet: very dense.			MAX, DS, CN, CHEM
5		B-13 -5	66		--- yellowish brown, dry, hard, fine sand, trace coarse sand, some clay. ND VOC, 0% LEL, ND H2S.	112	8.2	PI, DS
845		B-13 -7.5	37					HA, GS
10		B-13 -10	16		**Silty Sand (SM):**gray-black, moist, medium dense to dense, fine grained, trace organics ND VOC, 0% LEL, ND H2S. --- 0.3 ppm VOC, 0% LEL, 1 ppm H2S	111	8.0	CN
840								
15		B-13 -15	11		--- moist, loose, some fine to medium gravels and coarse sand 0.1 ppm VOC, 0% LEL, ND H2S.			
835					**Sandy Silt (ML):** gray-black, very moist, medium stiff, fine sand, some organics 2.3 ppm VOC, 0% LEL, ND H2S.	111	15.2	CN
20		B-13 -20	17					
830					**Sandy Clay (CL):** olive-gray, very moist, stiff, trace fine sand and gravel 0.1 ppm VOC, 0% LEL, ND H2S.			
25		B-13 -25	19		**BOTTOM OF FILL CAP AT 26 FEET** **Landfill Debris (PT):** black, moist, paper, wood, metal, plastic ND VOC, 4% LEL, ND H2S			
825								
30		B-13 -30	56					
820								

KLEINFELDER

PROJECT NO. 39117

Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-13

PLATE
A-14a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
					Boring terminated at 31.5 feet. Groundwater not encountered. Boring converted to settlement monument. Location of Boring: Degrees, minutes, seconds, 34, 13, 42.4 N 118, 24, 20.3 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 39117

Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-13

PLATE

A-14b

Explanation To Logs On Plate A-1

Date Drilled:	1/26/04	Water Depth:	> 56.5 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/26/2004
Drilling Method:	Hollow Stem Auger 10"	Approximate Elevation:	846.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
845	20			**Artificial Fill (Af):**			
	B-14 -2.5	44		**Silty Sand (SM):** brown, dry to slightly moist, fine to coarse grained, trace fine to coarse gravel and cobble ND VOC, 0% LEL, ND H2S	102	14.0	MAX, CHEM
				---@2.5 feet: dense			
5	B-14 -5	18		**Sandy Silt (ML):** brown, moist, stiff, fine to coarse sand, trace fine to medium gravel ND VOC, 0% LEL, ND H2S.			DS
840	21						
	B-14 -7.5	24		--- very stiff 0.1 ppm VOC, 0% LEL, ND H2S.	106	10.4	HA
10	B-14 -10	37		**Silty Sand (SM):** dark brown, moist, dense, fine to coarse grained, interbedded sandy silt layers ND VOC, 0% LEL, ND H2S.			
835							
15	B-14 -15	40		--- ND VOC, 0% LEL, ND H2S.			
830							
20	B-14 -20	16		--- gray-black, moist, medium dense, fine to coarse sand 0.1 ppm VOC, 0% LEL, 1 ppm H2S.	111	14.3	CN
825				**Sandy Clay (CL):** gray, moist, very stiff, fine sand			
25	B-14 -25	28		**Sandy Silt (ML):** olive, moist, very stiff ND VOC, 0% LEL, ND H2S.	111	17.2	HA, CN
820							
30	B-14 -30	33			112	17.8	WA
815				**Poorly Graded Gravel (GP):** olive-gray, moist, very dense, interbedded gravelly silt layers			

KLEINFELDER

PROJECT NO. 39117

Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-14

PLATE
A-15a

Explanation To Logs On Plate A-1

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
810		B-14 -35	50/6"		ND VOC, 0% LEL, ND H2S.	86	10.7	WA
40 805		B-14 -40	45		**Poorly Graded Gravel with Sand and Silt (GM):** olive-gray, slightly moist, dense, fine to coarse gravel, fine to coarse sand ND VOC, 0% LEL, ND H2S.			
45 800		B-14 -45	97		--- slightly moist, very dense, fine to coarse gravel, fine to coarse sand			
50 795		B-14 -50	44		--- olive-gray, moist, dense, fine to coarse gravel, fine to coarse sand			
55 790					**BOTTOM OF FILL CAP AT 53 FEET** **Landfill Debris (PT):** black, moist, with plastics ND VOC, 4% LEL, ND H2S			

Boring terminated at 56.5 feet.
Groundwater not encountered.
Boring converted to settlement monument.

Location of Boring:
Degrees, minutes, seconds,
34, 13, 37.0 N
118, 24, 15.3 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

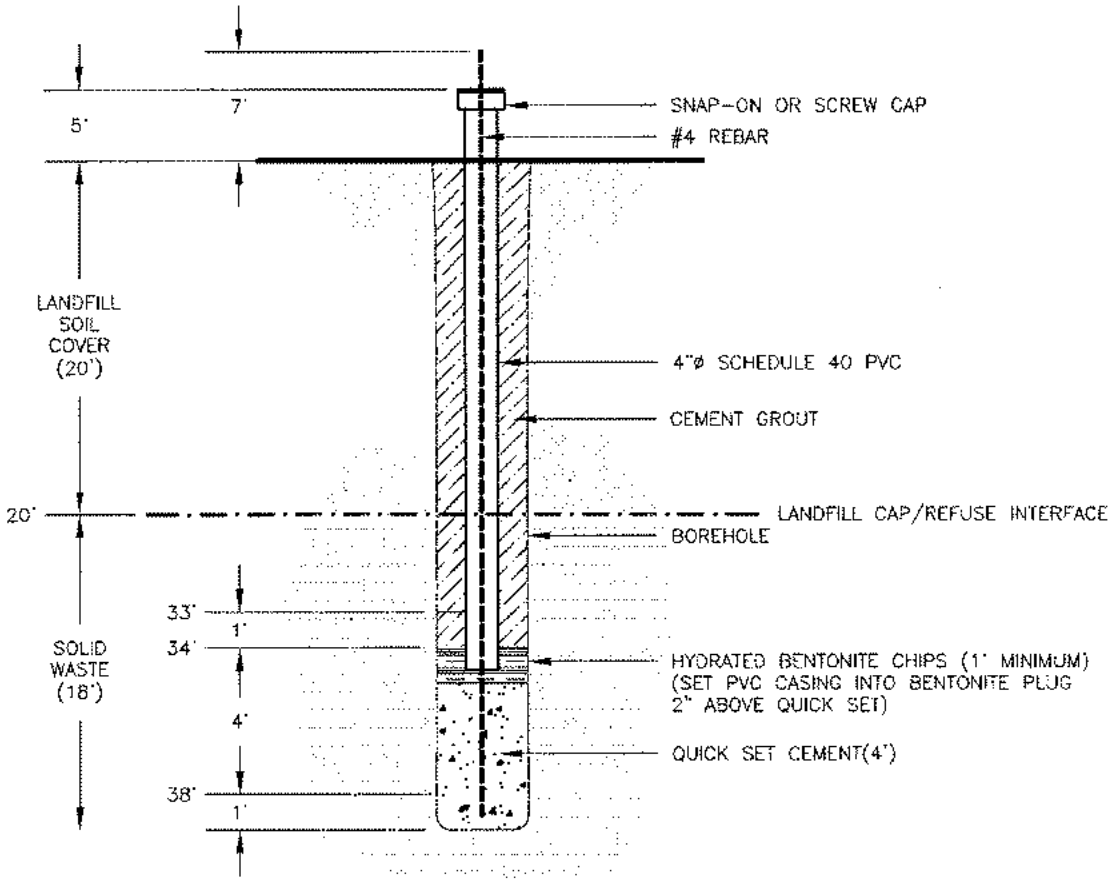
PROJECT NO. 39117

Proposed Athletic Fields
Sheldon - Arleta Landfill
Los Angeles, California

LOG OF BORING B-14

PLATE
A-15b

Explanation To Logs On Plate A-1



NOT TO SCALE

NOTES: INSTALLATION DATE, 12/22/03

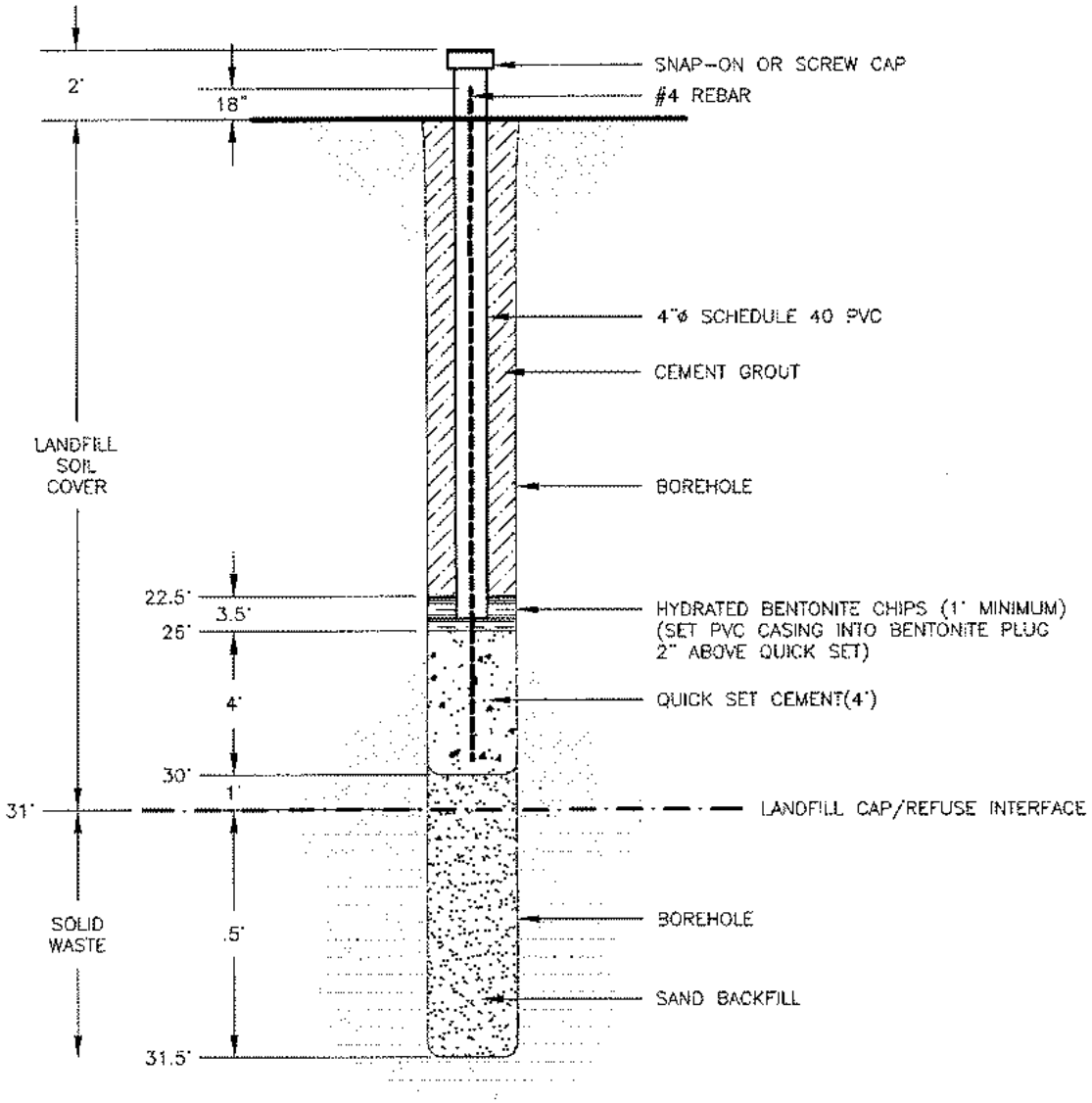
KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California

Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-3

PLATE
A-16



NOT TO SCALE

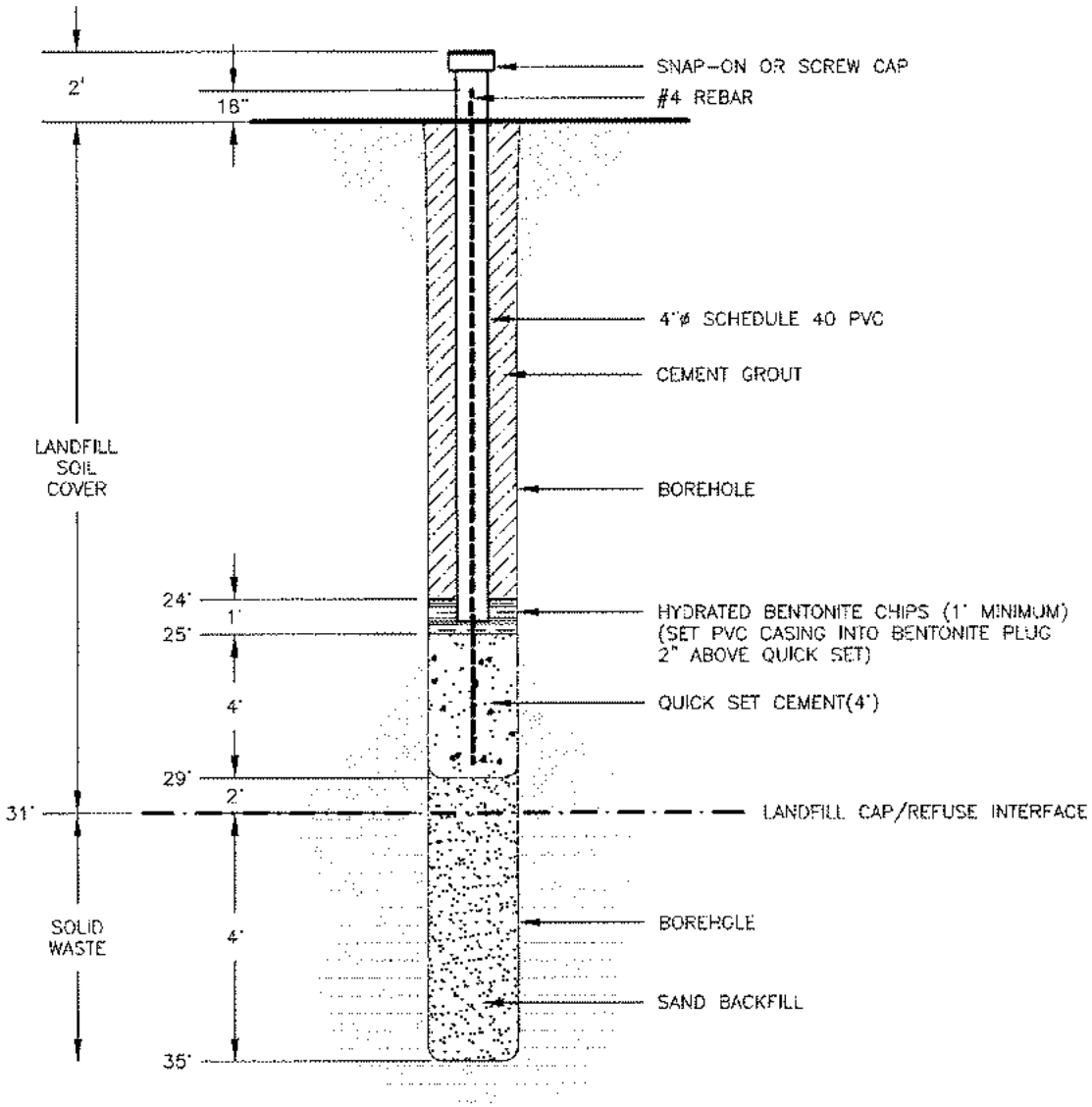
NOTES: INSTALLATION DATE, 01/20/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-4

PLATE
A-17



NOT TO SCALE

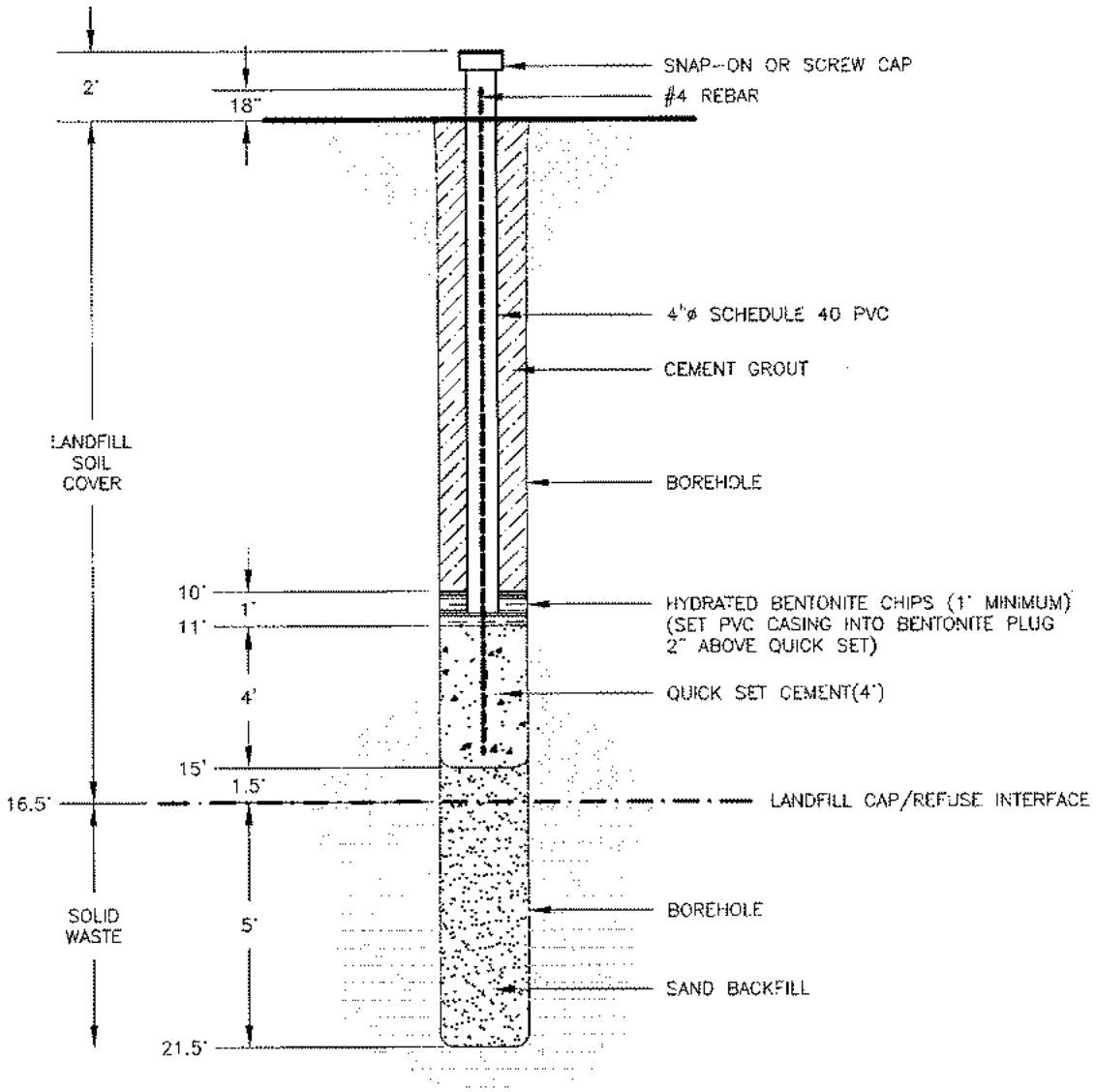
NOTES: INSTALLATION DATE, 01/21/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-5

PLATE
A-18



NOT TO SCALE

NOTES: INSTALLATION DATE, 01/21/04

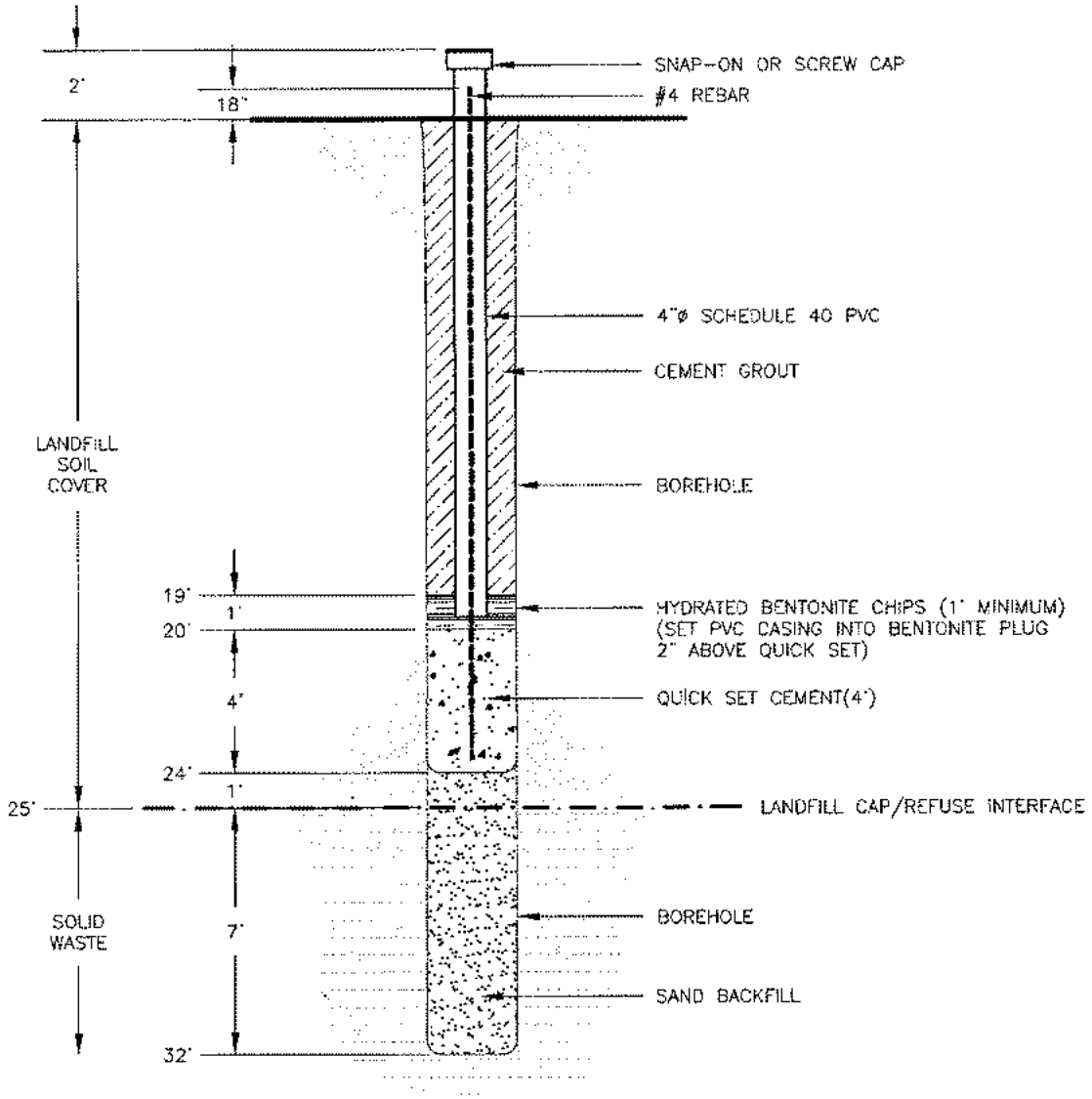
KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California

Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-6

PLATE
A-19



NOT TO SCALE

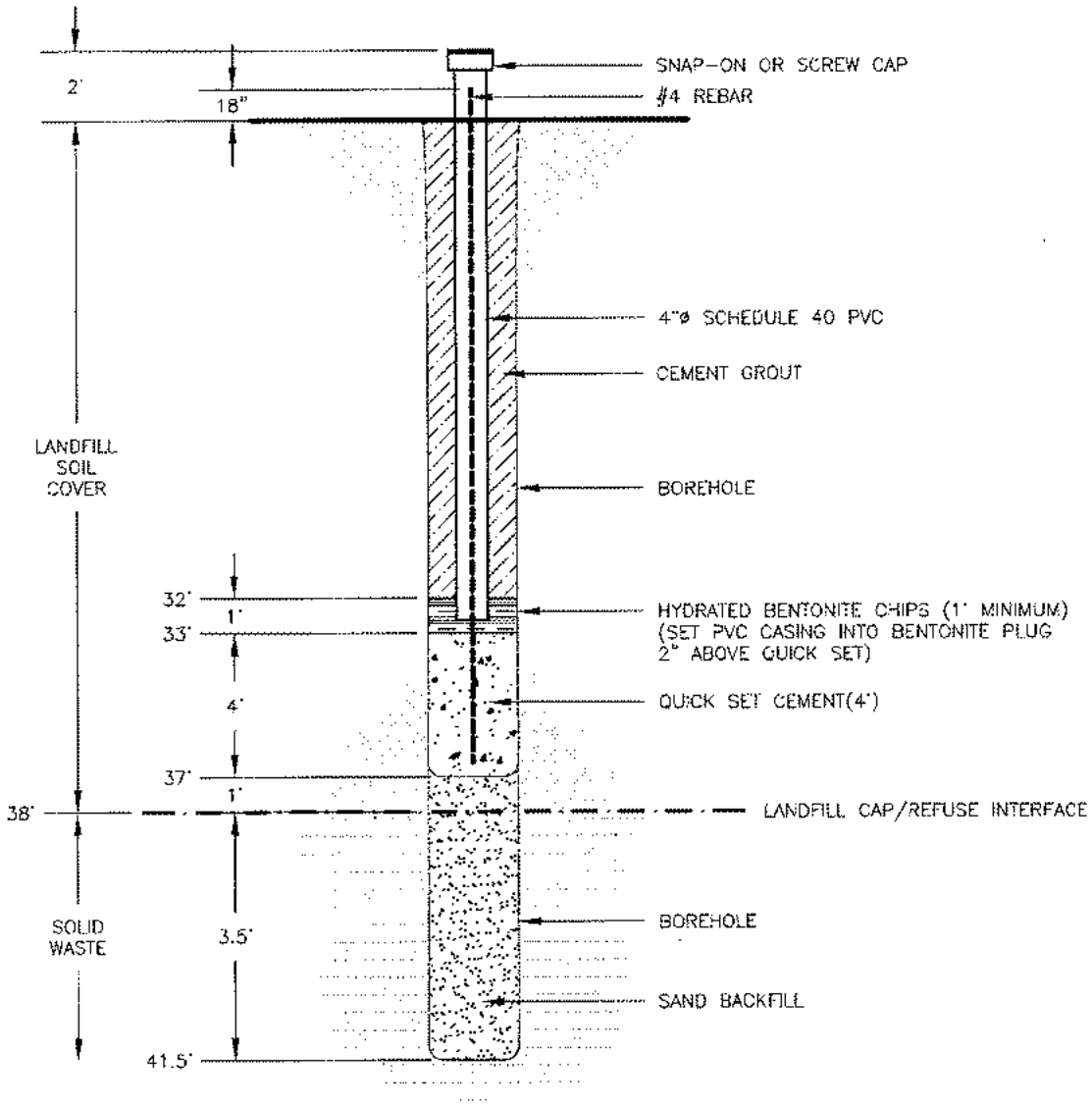
NOTES: INSTALLATION DATE, 01/23/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-7

PLATE
A-20



NOT TO SCALE

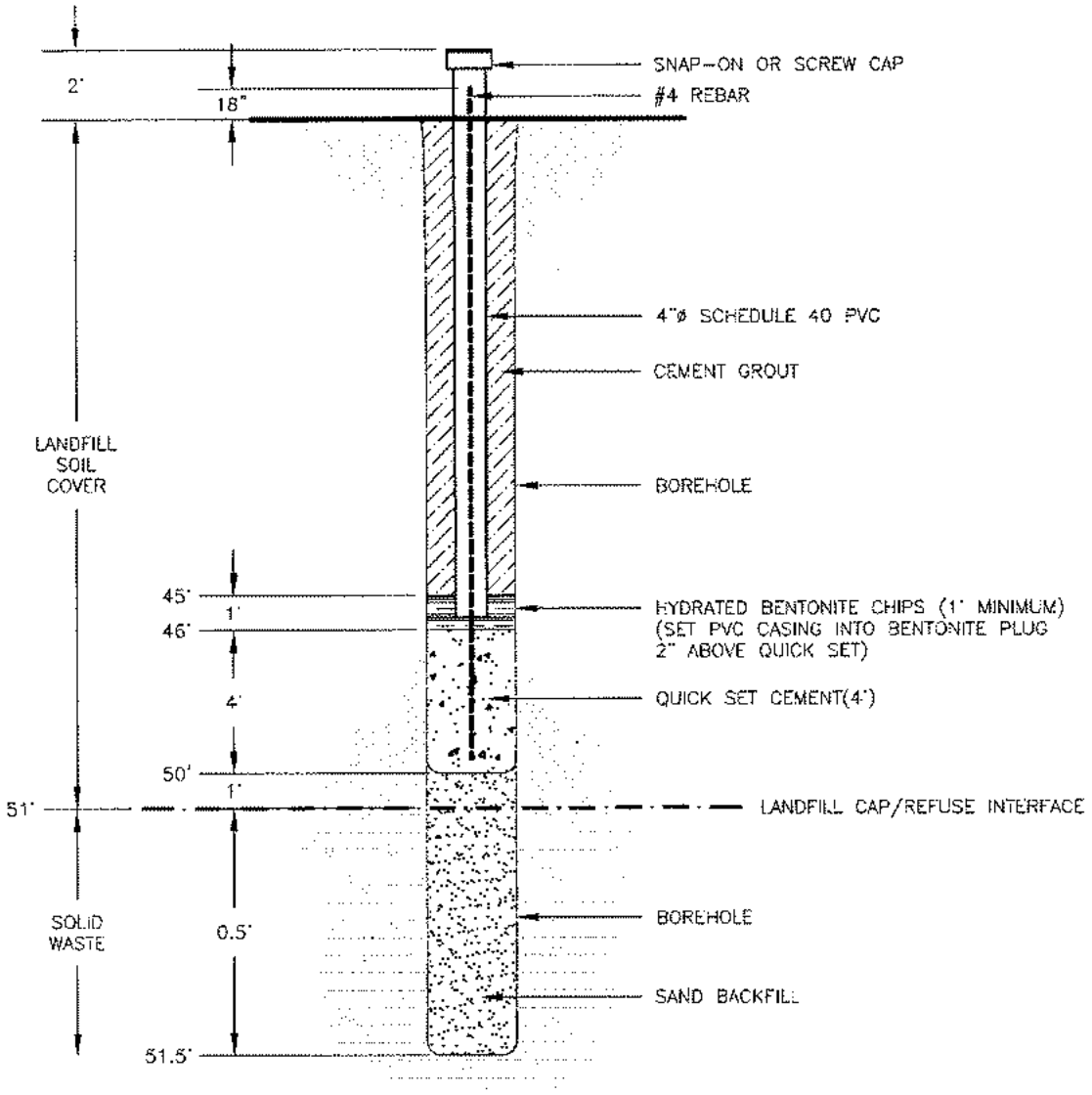
NOTES: INSTALLATION DATE, 01/26/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-8

PLATE
A-21



NOT TO SCALE

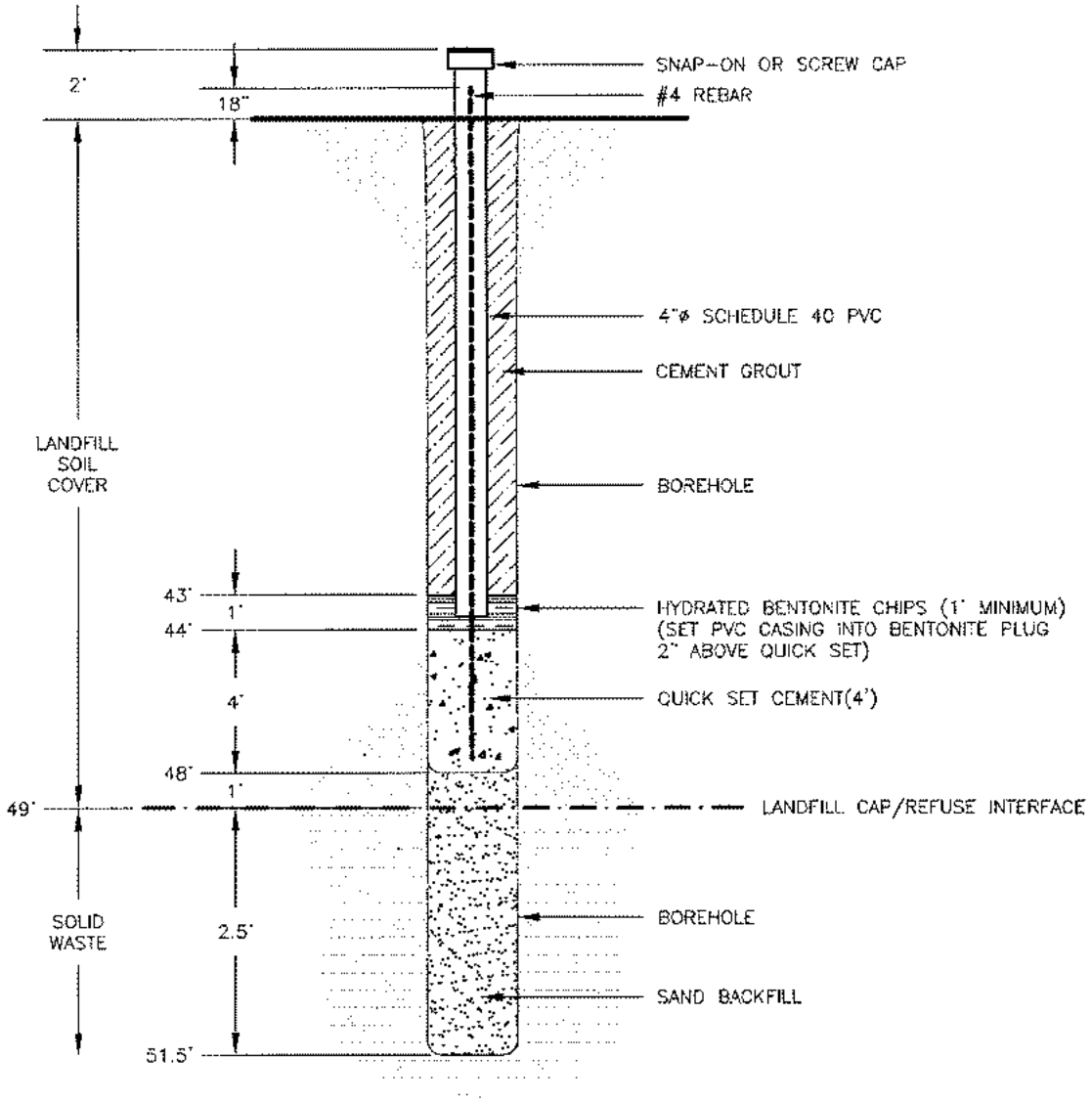
NOTES: INSTALLATION DATE, 01/22/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-9

PLATE
A-22



NOT TO SCALE

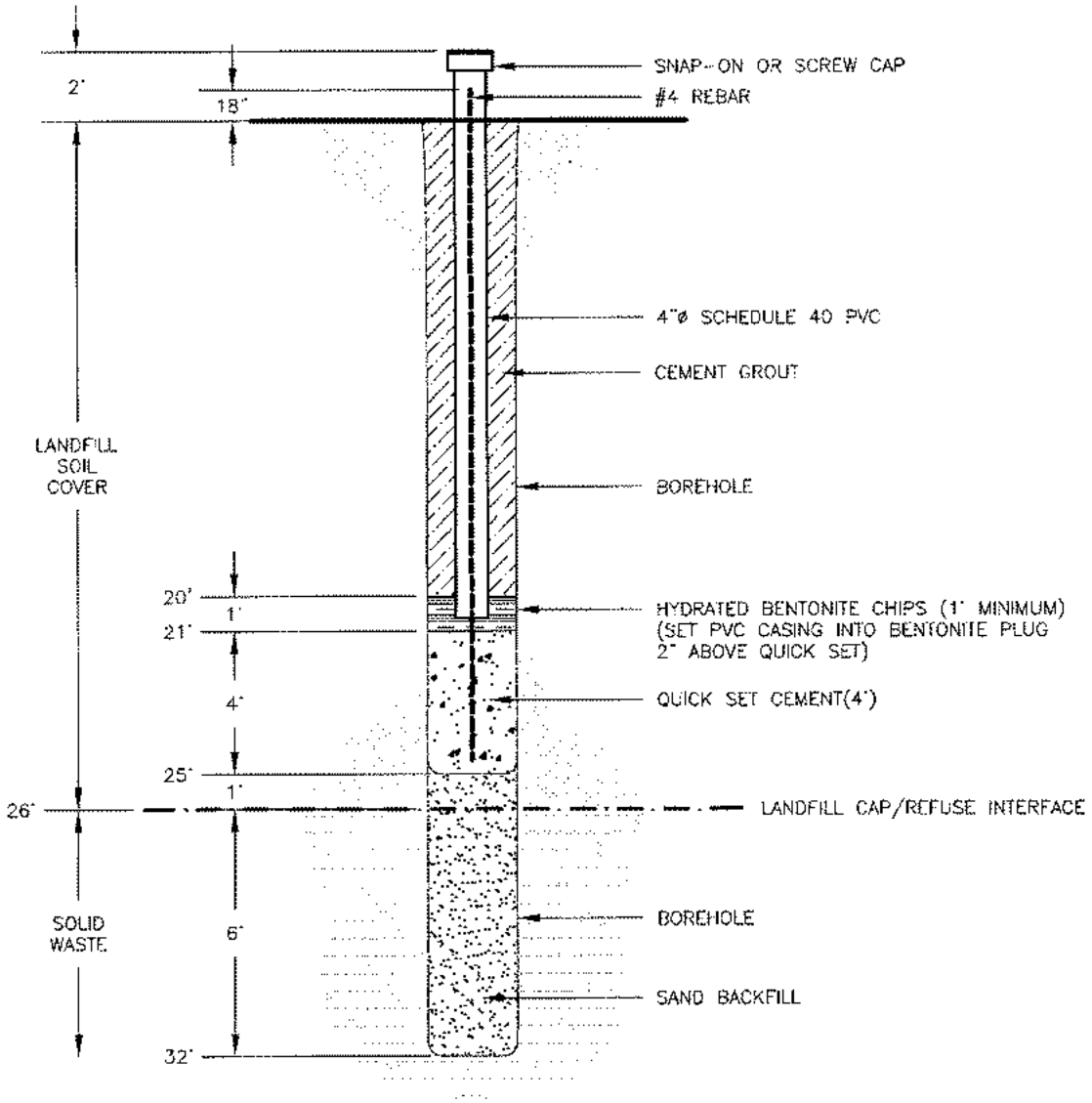
NOTES: INSTALLATION DATE, 01/22/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-10

PLATE
A-23



NOT TO SCALE

NOTES: INSTALLATION DATE, 01/23/04

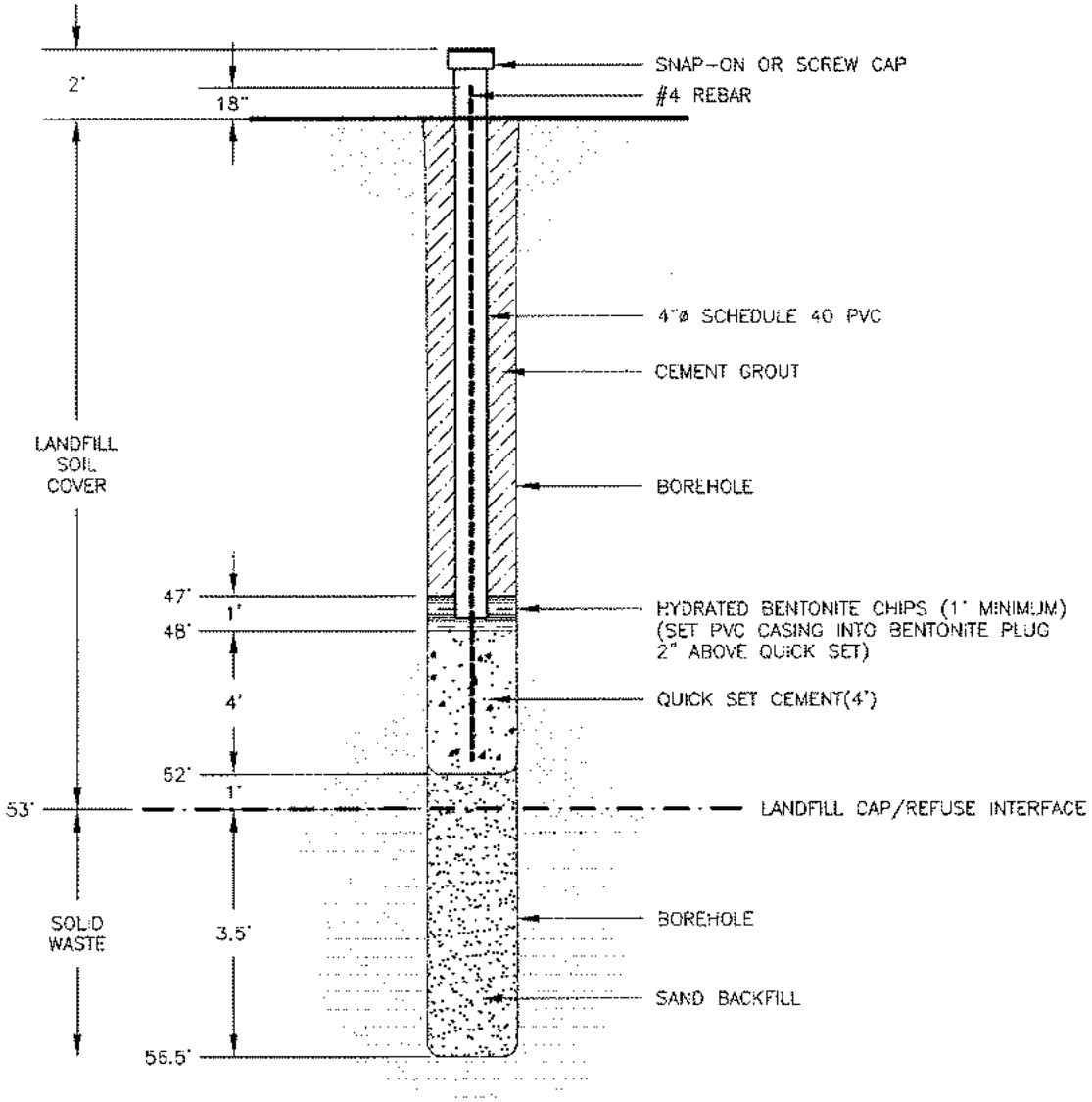
KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California

Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-13

PLATE
A-24



NOT TO SCALE

NOTES: INSTALLATION DATE, 01/26/04

KLEINFELDER

SHELDON ARLETA LANDFILL
12455 Wicks Street
Los Angeles, California
Project: 39214 March 2004

AS-BUILT SETTLEMENT MONUMENT B-14

PLATE
A-25

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	847.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		B-15 0-2			**ARTIFICIAL FILL (AF):**			
845					**SILTY SAND (SM):** brown, dry, fine to medium grained, trace coarse sand, with fine to coarse gravel			
		B-15 -2.5	39		ND VOC, 0% LEL, ND H2S	98	4.1	
5		B-15 -5	11		...some silt, some fine-medium gravel, non-cohesive 0ppm VOC, 0%LEL			
840		B-15 -7.5	2		...brown, damp, loose, fine-coarse sand, with fine-coarse gravel, with silt, (some trash-glass, weeds, plastic at bottom of sample), 0ppm VOC, 0%LEL	97	6.7	
10		B-15 -10	16		**SAND WITH SILT (SP-SM):** reddish brown, damp, loose-medium dense, fine-medium, some silt, trace organic, 0%LEL, 0ppm VOC	112	8.0	CN
835					**NATIVE: (Qal)**			
15		B-15 -15	42		**SAND (SP):** brown, damp, dense, fine-medium grained, 0 ppm VOC, 0% LEL	117	2.5	
830								
		B-15 -20	44			115	2.6	
20					End of boring at 20 feet bgs groundwater not encountered fill to 15 feet bgs boring backfilled with cuttings			

Location of Boring:
Degrees, minutes, seconds,
34, 13, 43.8 N
118, 24, 24.8 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-15

PLATE
A-26

Explanation To Logs On Plate A-1

Date Drilled:	7/15/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hand Auger 8"	Approximate Elevation:	828.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-16 0-10			**ARTIFICIAL FILL (AF):** **SILTY SAND (SM):** dry-damp, loose to medium dense, with fine-coarse sand, trace gravel, plastic and cohesive fines			
845	B-16 -2.5	16			105	7.0	GS, HA
5	B-16 -5	6		**SILTY SAND (SM):** brown, dry, loose, fine-coarse sand, with silt			
840	B-16 -7.5	23		...brown, damp, loose, fine-coarse sand, some lenses of sancy clay, 0ppm VOC, o%LEL	-	3.1	
10	B-16 -10	12		**SAND WITH SILT(SP-SM):** olive gray, moist, loose-medium dense, fine-coarse, gap graded some silt, trace organic, 0%LEL, 0ppm VOC			
835							
15	B-16 -15	34		**TRASH (PT):** paper, cellulose >50%			
830							
20				End of boring at 18 feet bgs trash encountered at 15-18 feet bgs fill deeper than 18 foot explored boring backfilled with hydrated bentonite chips			

Location of Boring:
Degrees, minutes, seconds,
34, 13, 43.7 N
118, 24, 24.9 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-16

PLATE
A-27

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	834.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-17 0-2			**SANDY GRAVEL (GM):** brown, damp, fine -coarse gravel with fine-coarse sand, non-cohesive ND VOC, 0% LEL, ND H2S			MAX
845	B-17 -2.5	58		...very dense	124	2.5	WA
5	B-17-5	-		...same as above	117	2.2	DS
840	B-17 -7.5	42		**SAND WITH GRAVEL(SP):** olive brown, damp, dense, fine-medium, trace-some coarse, trace fine gravel, trace fines, non-cohesive, 0 ppm VOC, 0% LEL	118	2.4	
10	B-17 -10	52		--- olive gray, moist, dense, less gravel, ND VOC, 0% LEL, ND H2S.	116	2.3	
835							
15	B-17 -15	>50		light olive gray, increasing coarse gradiation, some fine-medium gravel, 0 ppm VOC, 0% LEL	107	1.7	
830							
	B-17 -20	79		**POORLY GRADED GRAVEL (GP):** light gray, damp, dense, fine -coarse gravel with small cobbles, some fine-coarse sand, non-cohesive ND VOC, 0% LEL, ND H2S	-	-	
20				End of boring at 20 feet bgs groundwater not encountered fill to 8 feet bgs boring backfilled with cuttings			
				Location of Boring: Degrees, minutes, seconds, 34, 13, 43.9 N 118, 24, 25.1 W			
				Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-17

PLATE
A-28

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	832.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-18 -0-2			**ARTIFICIAL FILL (AF):**			MAX, DS
				SILTY SAND (SM): brown, dry, fine to medium grained, trace coarse sand, with fine to coarse gravel			
	B-18 -2.5	27		ND VOC, 0% LEL, ND H2S	108	13.3	DS, WA
845				**SANDY CLAY (SC):** dark brown, with fine-coarse sand, 0 ppmk VOC, 0% LEL			
5	B-18 -5	>50		**SILTY SAND (SM):** brown, moist, medium dense, fine grained, some medium, with silt, ND VOC, 0% LEL, ND H2S	124	6.7	
	B-18 -7.5	23		...olive brown, moderate silt, with gravel, ND VOC, 0% LEL, ND H2S	-	-	
840							
10	B-18 -10	18		**SAND WITH GRAVEL (SP):** light grayish brown, damp, medium dense, fine-medium, some coarse, some fine-medium gravel, trace fines, ND VOC, 0% LEL, ND H2S	74	4.3	
835				**SAND WITH SILT(SP-SM):** brown, damp, loose-medium dense, fine-medium, some organic, some highly oxodized lenses, 0%LEL, 0ppm VOC	-	-	
15	B-18 -15	26		**NATIVE: (Qal)**			
				SAND (SP): brown, damp, dense, fine-medium grained, trace coarse and fine gravel, 0 ppm VOC, 0% LEL	113	2.9	
830	B-18 -20	60					
20							
				End of boring at 20 feet bgs groundwater not encountered fill to 14 feet bgs boring backfilled with cuttings			
825							
25				Location of Boring: Degrees, minutes, seconds, 34, 13, 43.7 N 118, 24, 25.3 W			
820							
30				Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-18

PLATE
A-29

Explanation To Logs On Plate A-1

Date Drilled:	7/15/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	835.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-19 -0-5			**ARTIFICIAL FILL (AF):** **SILTY SAND (SM):** brown, dry-damp, loose to medium dense, with fine-coarse sand, trace gravel, plastic and cohesive fines, 0%LEL, 0ppm VOC	-	-	
	B-19 -2.5	14					
840 5	B-19 -5	37		asphalt grindings **SILTY SAND (SM):** brown, dry, medium dense, fine-medium sand, some coarse, some fine-medium gravel, with silt, 0%LEL, 0.2ppm VOC	112	8.1	
	B-19 -7.5	10			-	-	
835 10	B-19 -10	32		...brown, damp, loose, fine-coarse sand, some lenses of sancy clay, 0ppm VOC, 0.4%LEL	104	4.9	
				SAND< SILT AND CLAY (SC): mottled brown, poorly blended, very moist, medium dense, moderate plastic fines, some fine-coarse gravel, some cobbles, 0%LEL, 0.6 ppm VOC	-	-	
830 15	B-19 -15	12		**SAND WITH SILT(SP-SM):** olive gray, moist, loose-medium dense, fine-coarse, gap graded some silt, trace organic, 0%LEL, 2.8 ppm VOC	Disturbed	15.3	
	B-19 -20	4		**TRASH (PT):** paper, cellulose >50% 0%LEL, 3.7 ppm VOC			
825 20				End of boring at 20 feet bgs trash encountered at 19.5 feet bgs fill deeper than 20 foot explored boring backfilled with hydrated bentonite chips			

Location of Boring:
Degrees, minutes, seconds,
34, 13, 43.0 N
118, 24, 26.0 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-19

PLATE
A-30

Explanation To Logs On Plate A-1

Date Drilled:	7/15/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8'	Approximate Elevation:	832.4 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
840		B-20 0-3			**ARTIFICIAL FILL (AF):**			
		B-20 2.5	14		**SILTY SAND (SM):** brown, dry-damp, loose to medium dense, with fine-coarse sand, trace gravel, plastic and cohesive fines, 0%LEL, 0ppm VOC	-	-	
835	5	B-20 5	41		**SANDY CLAYEY SILT (ML):** dark brown, moist, medium stiff, fine grained, some fine-medium gravel, some clay, cohesive and plastic fines, 0%LEL, 0.2 ppm VOC	102	7.7	
		B-20 7.5	27		asphalt grindings	-	-	
830	10	B-20 10	44		**SANDY SILTY CLAY (CL):** brown, moist, stiff, with fine-medium sand, some coarse, trace fine gravel, 0%LEL, 2.2 ppm VOC	Disturbed	2.6	
					SILTY SAND (SM): olive gray, moist, medium dense, fine-coarse sand, some fine-medium gravel and clay, with silt, 0%LEL, 1.6 ppm VOC			
825	15	B-20 15	31		**SAND WITH SILT(SP-SM):** yellowish brown, moist, dense, fine-coarse, with silt and fine-coarse gravel, some cobbles >3" diameter, 0%LEL, 0.5 ppm VOC	-	-	
		B-20 20	19		moderate silt, brown, very moist, some black organic fines and trash layer~2" thick, contact with greenish gray color change, 0%LEL, 9.8 ppm VOC	-	-	
	20				**TRASH (PT):** paper, cellulose >50% 0%LEL, 227.4 ppm VOC			

End of boring at 20 feet bgs
trash encountered at 18.5 feet bgs
fill deeper than 20 foot explored
boring backfilled with hydrated bentonite chips
Location of Boring:
Degrees, minutes, seconds,
34, 13, 41.0 N
118, 24, 29.0 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-20

PLATE
A-31

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	843.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-21 -0-2			**SAND WITH SILT (SP-SM):** light grayish brown, dry, fine to medium grained, trace coarse sand, some gravel, ND VOC, 0% LEL, ND H2S			MAX, DS, CHEM
825	B-21 -2.5	24		**SAND (SP):** pale brown, dry-damp, medium dense, fine-medium, trace coarse, trace fine-medium gravel, 0 ppm VOC, 0%LEL	-	2.5	
5	B-21 -5	30		NATIVE: (Qal)	-	-	
820	B-21 -7.5	16		...same as above, medium dense, ND VOC, 0% LEL, ND H2S	-	1.9	
10	B-21 -10	40		...same as above, dense, ND VOC, 0% LEL, ND H2S	-	-	
815							
15	B-21 -15	18		...damp, medium dense, fine grained, some medium-coarse, trace fine gravel and silt, ..same as above, medium dense, ND VOC, 0% LEL, ND H2S	-	7.3	
810	B-21 -20	40		...fine-coarse sand with fine gravel, some gradiation, ND VOC, 0% LEL, ND H2S	103	3.8	
20				End of boring at 20 feet bgs no trash encountered fill to 5 feet bgs boring backfilled with cuttings			

Location of Boring:
Degrees, minutes, seconds,
34, 13, 29.2 N
118, 24, 22.1 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-21

PLATE
A-32

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/26/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	849.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-22 -0-2			**SAND WITH SILT (SP-SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S	-	2.3	
825	B-22 -2.5	19					
5	B-22 -5	21		NATIVE: (Qal) **SAND (SP):**grayish brown, dry-damp, medium dense, fine, some medium-coarse,some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL	-	-	
820	B-22 -7.5	31		...same as above, medium dense, ND VOC, 0% LEL, ND H2S	-	2.9	
10	B-22 -10	32		...same as above, ND VOC, 0% LEL, ND H2S	-	-	
815				...same as above, dense, ND VOC, 0% LEL, ND H2S			
15	B-22 -15	46		...increasing gradiation, ND VOC, 0% LEL, ND H2S	-	3.8	
810				...moist, very dense, fine-coarse sand, some fine-medium gravel, no fines, ND VOC, 0% LEL, ND H2S			
20	B-22 -20	51		...same as above	-	-	
				End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			
				Location of Boring: Degrees, minutes, seconds, 34, 13, 29.4 N 118, 24, 22.3 W			
				Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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Proposed Athletic Fields
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LOG OF BORING B-22

PLATE
A-33

Explanation To Logs On Plate A-1

Date Drilled:	7/15/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/22/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	857.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		B-23 0-2			**SILTY SAND (SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S	-	1.1	
825		B-23 2.5	27		NATIVE: (Qal) **SAND (SP):** pale brown, damp, medium dense, fine, some medium-coarse, some fine-medium gravel, no fines, 0.3 ppm VOC, 0%LEL	-	-	
5		B-23 5	14		**SAND WITH SOME SILT (SP-SM):** pale brown, dry-damp, medium dense, fine-medium, some coarse, some fine-medium gravel, some silt ND VOC, 0% LEL, ND H2S	108	2.6	
820		B-23 7.5	32		**Sand (SP):** pale brown, damp, dense, fine-coarse with fine-coarse gravel, no fines 9.6 ppm VOC, 0%LEL	-	-	
10		B-23 10	28		...moist, medium dense, 0.5 ppm VOC, 0%LEL			
815					...well graded, damp-moist, dense, 0.3 ppm VOC, 0%LEL	-	1.8	
15		B-23 15	30					
810					...damp, moderate gradiation, 0.5 ppm VOC, 0%LEL	-	-	
20		B-23 20	40		End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			

Location of Boring:
Degrees, minutes, seconds,
34, 13, 29.0 N
118, 24, 22.0 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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Proposed Athletic Fields
Sheldon Arleta Landfill
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LOG OF BORING B-23

PLATE
A-34

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/20/2004
Drilling Method:	Hand Auger 8"	Approximate Elevation:	832.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
830	B-24 -2.5	27		**SAND WITH SILT (SP-SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S	-	2.5	
825 5	B-24 -5	14		NATIVE (Qal) **SAND (SP):**pale brown, dry-damp, medium dense, fine-medium, some coarse,some fine-coarse gravel, trace cobble, no fines,	88	32.0	
	B-24 -7.5	32		0 ppm VOC, 0%LEL ...same as above, medium dense, ND VOC, 0% LEL, ND H2S	-	-	
820 10	B-24 -10	28		...increasing gradiation, fine-coarse, some fine-coarse gravel, no fines, 0 ppm VOC, 0%LEL ...same as above, medium dense, ND VOC, 0% LEL, ND H2S	99	4.9	
815 15	B-24 -15	30		...moist, dense, fine-coarse sand, some fine-medium gravel, no fines, ND VOC, 0% LEL, ND H2S	-	-	
	B-24 -20	40		..same as above	107	3.8	
810 20				End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			
				Location of Boring: Degrees, minutes, seconds, 34, 13, 29.5 N 118, 24, 22.2 W			
				Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-24

PLATE
A-35

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/22/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	851.2 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
830	B-25	-0-2			**SILTY SAND (SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles,			
	B-25	-2.5	28		ND VOC, 0% LEL, ND H2S	-	2.8	
825 5	B-25	-5	18		NATIVE: (Qal) **SAND (SP):** pale brown, damp, medium dense, fine, some medium-coarse, some fine-medium gravel, no fines, 0.3 ppm VOC, 0%LEL	99	5.3	GS
	B-25	-7.5	15		**SANDY SILT (ML):** pale brown, dry-damp, medium dense, fine-medium, some coarse, some fine-medium gravel, some silt 0.1 ppm VOC, 0% LEL, ND H2S	-	1.0	
820 10	B-25	-10	39		**Sand (SP):** pale brown, damp, dense, fine-coarse with fine-coarse gravel, no fines 0.2 ppm VOC, 0%LEL ...moist, medium dense, 0.3 ppm VOC, 0%LEL	-	-	
815 15	B-25	-15	24		...well graded, damp-moist, dense, 0.0 ppm VOC, 0%LEL	-	1.7	
	B-25	-20	46		damp, moderate gradiation, 0.0 ppm VOC, 0%LEL	-	-	
810 20					End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			

Location of Boring:
Degrees, minutes, seconds,
34, 13, 30.6 N
118, 24, 19.8 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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Proposed Athletic Fields
Sheldon Arleta Landfill
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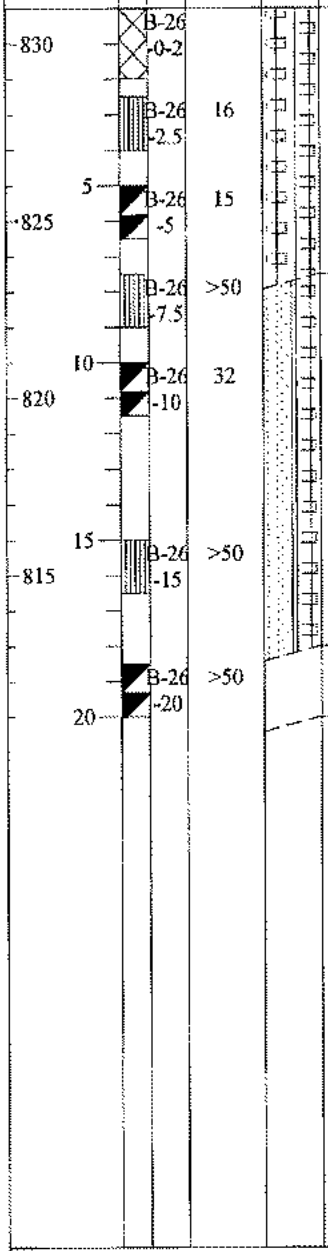
LOG OF BORING B-25

PLATE
A-36

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	845.5 feet
Logged By:	L. Roebuck	Reference Datum:	MSL



SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
SILTY SAND (SM): light yellowish brown, dry, loose-medium dense, fine grained, some medium-coarse sand, some asphalt pieces, trace cobbles, some organics and rootlets ND VOC, 0% LEL, ND H2S	96	0.8	MAX
...same as above but no asphalt, 0.4 ppm VOC, 0%LEL	-	-	
NATIVE: (Qal) **SAND WITH SOME SILT AND GRAVEL (SP-SM):** light brownish gray, dry, dense, fine-medium, some coarse, some fine-medium gravel, some silt ND VOC, 0% LEL, ND H2S	108	1.1	
	-	-	
	-	-	
SAND (SP): light grayish brown, fine-medium, some coarse, some fine-coarse gravel, no fines, 0 ppm VOC, 0%LEL	-	1.2	

End of boring at 20 feet bgs
no trash encountered
fill to 8 feet bgs
boring backfilled with cuttings

Location of Boring:
Degrees, minutes, seconds,
34, 13, 31.6 N
118, 24, 18.6 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-26

PLATE
A-37

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	845.5 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
830	B-27 -0-2			**SILTY SAND (SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S	-	-	MAX, DS
	B-27 -2.5	16					
5	B-27 -5	18		NATIVE: (Qal) **SAND (SP):** light gray, dry-damp, medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, no fines, 0 ppm VOC, 0%LEL	96	1.5	CN
825	B-27 -7.5	20		...same as above, dry-damp, ND VOC, 0% LEL, ND H2S	-	1.3	
10	B-27 -10	48		dry, medium-dense, fine-medium, some coarse, some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL ...dense	-	-	
820							
15	B-27 -15	17		dry, medium-dense, fine-medium, some coarse, some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL	-	3.5	
815							
20	B-27 -20	73		...light brownish gray, increase in coarse sand and gravel, 0 ppm VOC, 0%LEL	-	-	
				End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			
				Location of Boring: Degrees, minutes, seconds, 34, 13, 31.9 N 118, 24, 17.9 W			
				Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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Proposed Athletic Fields
Sheldon Arleta Landfill
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LOG OF BORING B-27

PLATE
A-38

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/23/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	851.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
830	B-28	0-2			**SAND WITH SILT (SP-SM):** grayish brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles,			MAX, DS, CN
	B-28	2.5	11		ND VOC, 0% LEL, ND H2S	-	1.3	
5	B-28	5	18		NATIVE: (Qal) **SAND (SP):** pale brown, dry-damp, medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, no fines,	-	-	
825	B-28	7.5	36		0 ppm VOC, 0%LEL ...same as above, medium dense, ND VOC, 0% LEL, ND H2S	-	0.4	
10	B-28	10	50		...fine grained, with fine-coarse gravel, trace-some silt, ...same as above, large cobbles >3"diameter, ND VOC, 0% LEL, ND H2S	-	-	
820								
15	B-28	15	26		...same as above, trace-some fines, ND VOC, 0% LEL, ND H2S	-	-	
815								
20	B-28	20	62		...damp-moist, fine-medium sand, some fine gravel, trace fines, non-cohesive	114	2.1	

End of boring at 20 feet bgs
no trash encountered
fill to 3 feet bgs
boring backfilled with cuttings

Location of Boring:
Degrees, minutes, seconds,
34, 13, 31.4 N
118, 24, 17.5 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

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Proposed Athletic Fields
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LOG OF BORING B-28

PLATE
A-39

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	846.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type / Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-29 -0-2			**SILTY SAND (SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles,			MAX
-830	B-29 -2.5	22		ND VOC, 0% LEL, ND H2S	96	1.7	WA
5	B-29 -5	18		NATIVE: (Qal) **SAND WITH GRAVEL (SP):**pale brown, dry, loose-medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, trace fines,	-	-	
-825	B-29 -7.5	26		0 ppm VOC, 0%LEL	disturbed	0.8	
10	B-29 -7.5	32		...same as above, dry-damp, ND VOC, 0% LEL, ND H2S	-	-	
-820				...fine-medium, some coarse, some fine-medium gravel, no fines ...same as above			
15	B-29 -15	45		dry, dense, fine-coarse, some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL	-	-	
-815							
	B-29 -20	56		...with some coarse gravel and small cobbles	-	-	
20				End of boring at 20 feet bgs no trash encountered fill to 5 feet bgs boring backfilled with cuttings			
				Location of Boring: Degrees, minutes, seconds, 34, 13, 31.9 N 118, 24, 17.9 W			
				Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-29

PLATE
A-40

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	847.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-30	0-2			**SAND WITH SOME SILT (SP-SM):** pale brown, dry-damp, medium dense, fine-medium, some coarse, some fine-medium gravel, some silt ND VOC, 0% LEL, ND H2S	-	-	
830	B-30	2.5	28					
5	B-30	5	18		NATIVE: (Qal) **SILTY SAND (SM):** brown, dry-damp, loose-medium dense, fine-coarse, with silt, non-cohesive, ND VOC, 0% LEL, ND H2S	-	-	
825	B-30	7.5	15		...same as above but with fine-medium gravel, ND VOC, 0% LEL, ND H2S	93	1.7	WA
10	B-30	10	39		**SAND (SP):**pale brown, dry, loose-medium dense, fine-medium, some coarse, trace fine-medium gravel, trace fines, 0 ppm VOC, 0%LEL	105	1.9	
820								
15	B-30	15	24		dry, dense, fine-coarse, some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL	-	-	
815								
20	B-30	20	46		...same as above, ND VOC, 0% LEL, ND H2S	disturbed	1.4	
					End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			
					Location of Boring: Degrees, minutes, seconds, 34, 13, 32.8 N 118, 24, 16.8 W			
					Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

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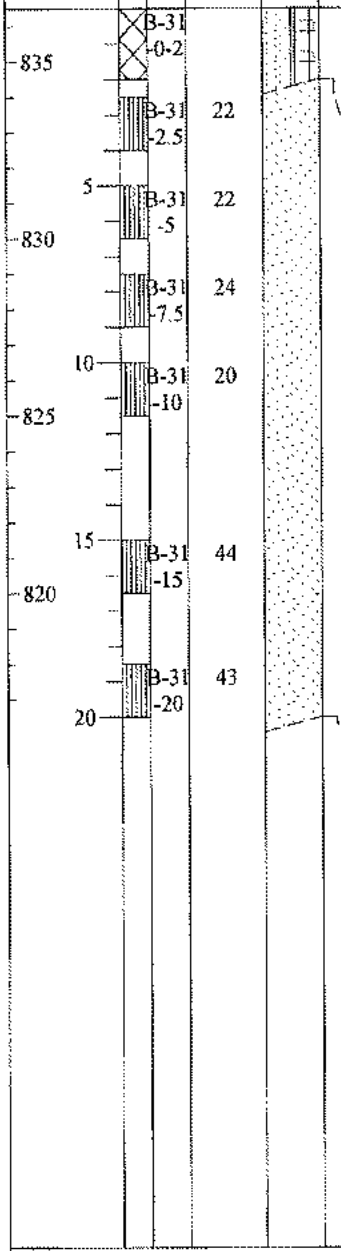
Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-30

PLATE
A-41

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	847.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL



SOIL DESCRIPTION AND CLASSIFICATION

Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
disturbed	1.2	
-	-	
disturbed	1.3	WA
-	-	
disturbed	1.2	
-	-	

SAND WITH SILT (SP-SM): light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles,
ND VOC, 0% LEL, ND H2S

NATIVE: (Qal)
SAND (SP):pale brown, dry-damp, medium dense, fine-medium, some coarse,some fine-coarse gravel, trace cobble, no fines,
0 ppm VOC, 0%LEL
...same as above, medium dense,
ND VOC, 0% LEL, ND H2S
...increasing gradiation, fine-coarse, some fine-coarse gravel, no fines,
0 ppm VOC, 0%LEL
...same as above, medium dense,
ND VOC, 0% LEL, ND H2S

...moist, dense, fine-coarse sand, some fine-medium gravel, no fines,
ND VOC, 0% LEL, ND H2S

...pale brown, fine-coarse, trace-some fines, non-cohesive,
ND VOC, 0% LEL, ND H2S

End of boring at 20 feet bgs
no trash encountered
fill to 3 feet bgs
boring backfilled with cuttings

Location of Boring:
Degrees, minutes, seconds,
34, 13, 33.5 N
118, 24, 15.3 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-31

PLATE
A-42

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	847.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
	B-32	0-2			**SAND WITH SILT (SP-SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S			
835	B-32	2.5	16			87	22.6	
5	B-32	5	19		NATIVE: (Qal) **SAND (SP):** light gray, dry-damp, medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, no fines, 0 ppm VOC, 0%LEL	104	3.1	
830	B-32	7.5	32		...same as above, medium dense, ND VOC, 0% LEL, ND H2S	100	2.3	
10	B-32	10	>50		...increasing gradiation, fine-coarse, some fine-coarse gravel, no fines, 0 ppm VOC, 0%LEL	disturbed	1.6	
825					...same as above, medium dense, ND VOC, 0% LEL, ND H2S			
15	B-32	15	46		...moist, dense, fine-coarse sand, some fine-medium gravel, no fines, ND VOC, 0% LEL, ND H2S	-	-	
820	B-32	20	>50		...same as above	-	-	
20					End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings Location of Boring: Degrees, minutes, seconds, 34, 13, 34.7 N 118, 24, 15.4 W Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-32

PLATE

A-43

Explanation To Logs On Plate A-1

Date Drilled:	7/13/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	7/13/04
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	847.0 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
		B-33 0-2			**SAND WITH SILT (SP-SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles.			
		B-33 2.5	30		ND VOC, 0% LEL, ND H2S	disturbed	1.7	
835								
5		B-33 5	N1		NATIVE: (Qal)	-	-	
					SAND (SP): light gray, dry-damp, medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, no fines,	disturbed	1.3	
		B-33 7.5	25		0 ppm VOC, 0%LEL			
830					...same as above, medium dense,	disturbed	0.6	
10		B-33 10	24		ND VOC, 0% LEL, ND H2S			
					...increasing gradiation, fine-coarse, some fine-coarse gravel, no fines,			
					0 ppm VOC, 0%LEL			
					...same as above, dry, no fines			
825					ND VOC, 0% LEL, ND H2S			
15		B-33 15	32		...moist, dense, fine-coarse sand, some fine-medium gravel, no fines,	110	3.7	
					ND VOC, 0% LEL, ND H2S			
		B-33 20	50		...same as above	-	-	
820								
20								
					End of boring at 20 feet bgs no trash encountered fill to 4.5 feet bgs boring backfilled with cuttings			
					Location of Boring: Degrees, minutes, seconds, 34, 13, 34.5 N 118, 24, 15.1 W			
					Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-33

PLATE

A-44

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0	feet
Drilled By:	Prosonic Corporation	Date Measured:	4/1/13	
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	847.0	feet
Logged By:	L. Roebuck	Reference Datum:	MSL	

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
840		B-34 0-2			**SAND WITH SILT (SP-SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S	-	-	MAX
		B-34 2.5	16					
835 5		B-34 5	19		NATIVE: (Qal) **SAND (SP):** light gray, dry-damp, medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, no fines, 0 ppm VOC, 0%LEL	-	1.9	
		B-34 7.5	22		...same as above, medium dense, ND VOC, 0% LEL, ND H2S	-	1.5	
830 10		B-34 10	38		..increasing gradiation, fine-coarse, some fine-coarse gravel, no fines, 0 ppm VOC, 0%LEL	-	-	
					...same as above, dry, no fines ND VOC, 0% LEL, ND H2S			
825 15		B-34 15	39		..moist, dense, fine-coarse sand, some fine-medium gravel, no fines, ND VOC, 0% LEL, ND H2S	-	1.2	
		B-34 20	33		...same as above	-	-	
820 20					End of boring at 20 feet bgs no trash encountered fill to 4 feet bgs boring backfilled with cuttings			
					Location of Boring: Degrees, minutes, seconds, 34, 13, 32.2 N 118, 24,18.0 W			
					Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-34

PLATE

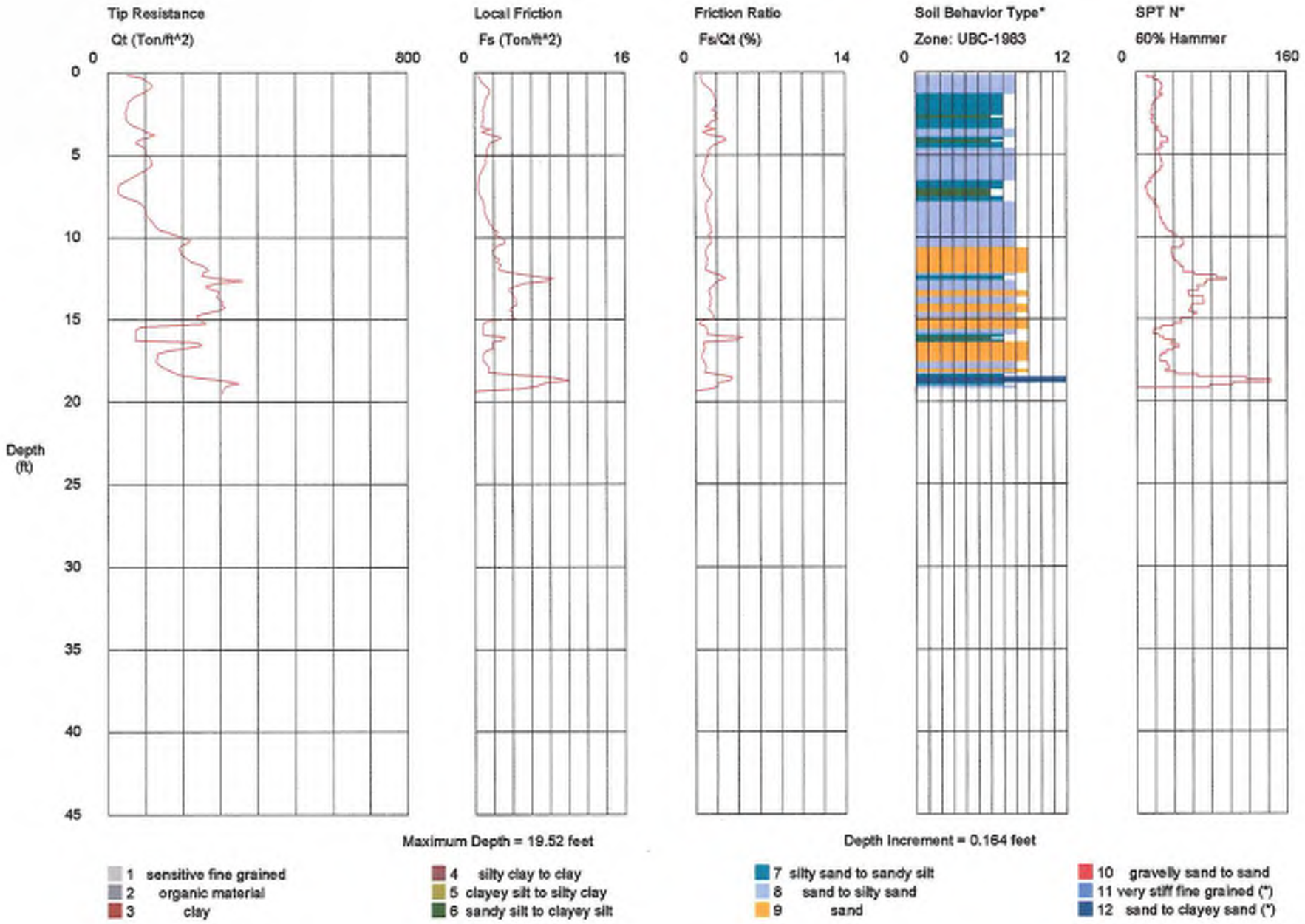
A-45

Explanation To Logs On Plate A-1

Klienfelder, Inc

CPT-01
Latitude: (N) 34°13' 33.9"
Longitude: (W) 118°24' 15.9"

CPT Date/Time: 4/27/2004 10:14
Sheldon-Arleta CPT Investigaion
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-01 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 10:14

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	99.93	.61	SAND to SILTY SAND	25	40	76		
.300	.98	114.46	1.29	SAND to SILTY SAND	29	46	80		
.450	1.48	73.12	1.79	SILTY SAND to SANDY SILT	24	39	67		49.5
.600	1.97	54.12	1.95	SILTY SAND to SANDY SILT	18	29	59		47.0
.750	2.46	46.44	2.07	SANDY SILT to CLAYEY SILT	19	30		3.1	
.900	2.95	52.51	1.58	SILTY SAND to SANDY SILT	18	28	58		45.5
1.050	3.44	91.50	1.91	SILTY SAND to SANDY SILT	31	49	74		47.0
1.200	3.94	105.36	2.68	SANDY SILT to CLAYEY SILT	42	67		6.2	
1.350	4.43	90.22	1.62	SILTY SAND to SANDY SILT	30	48	73		46.0
1.500	4.92	101.76	1.28	SAND to SILTY SAND	25	41	77		46.0
1.650	5.41	115.34	1.11	SAND to SILTY SAND	29	46	80		46.0
1.800	5.91	100.37	.78	SAND to SILTY SAND	25	40	76		45.0
1.950	6.40	60.75	.81	SAND to SILTY SAND	15	24	62		42.5
2.100	6.89	29.69	1.12	SILTY SAND to SANDY SILT	10	15	42		38.5
2.250	7.38	31.75	1.65	SANDY SILT to CLAYEY SILT	13	19		2.5	
2.400	7.87	83.79	1.12	SAND to SILTY SAND	21	30	71		43.0
2.550	8.37	103.19	.98	SAND to SILTY SAND	26	36	77		44.0
2.700	8.86	111.48	1.22	SAND to SILTY SAND	28	38	79		44.0
2.850	9.35	127.83	1.49	SAND to SILTY SAND	32	43	82		44.0
3.000	9.84	181.77	1.20	SAND to SILTY SAND	45	59	92		45.5
3.150	10.33	212.79	1.51	SAND to SILTY SAND	53	68	95		46.0
3.300	10.83	195.04	.95	SAND	39	48	92		45.5
3.450	11.32	214.57	1.22	SAND to SILTY SAND	54	65	94		45.5
3.600	11.81	263.44	.98	SAND	53	63	100		46.0
3.750	12.30	252.26	2.43	SILTY SAND to SANDY SILT	84	98	98		46.0
3.900	12.80	286.94	1.82	SAND to SILTY SAND	72	82	100		46.0
4.050	13.29	296.08	1.24	SAND	59	66	100		46.0
4.200	13.78	297.90	1.46	SAND to SILTY SAND	74	82	100		46.0
4.350	14.27	313.31	1.24	SAND	63	68	100		46.0
4.500	14.76	237.37	1.62	SAND to SILTY SAND	59	63	93		45.0
4.650	15.26	262.19	.32	GRAVELLY SAND to SAND	44	46	96		45.0
4.800	15.75	74.46	1.12	SAND to SILTY SAND	19	19	59		39.0
4.950	16.24	74.47	3.90	CLAYEY SILT to SILTY CLAY	37	38		4.3	
5.100	16.73	208.05	.95	SAND	42	42	88		44.0
5.250	17.22	133.78	.64	SAND	27	26	75		42.0
5.400	17.72	136.28	.92	SAND to SILTY SAND	34	33	75		42.0
5.550	18.21	177.09	.83	SAND	35	34	82		42.5
5.700	18.70	305.22	3.29	*SAND to CLAYEY SAND	100	100			
5.850	19.19	309.89	1.70	SAND to SILTY SAND	77	72	97		45.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

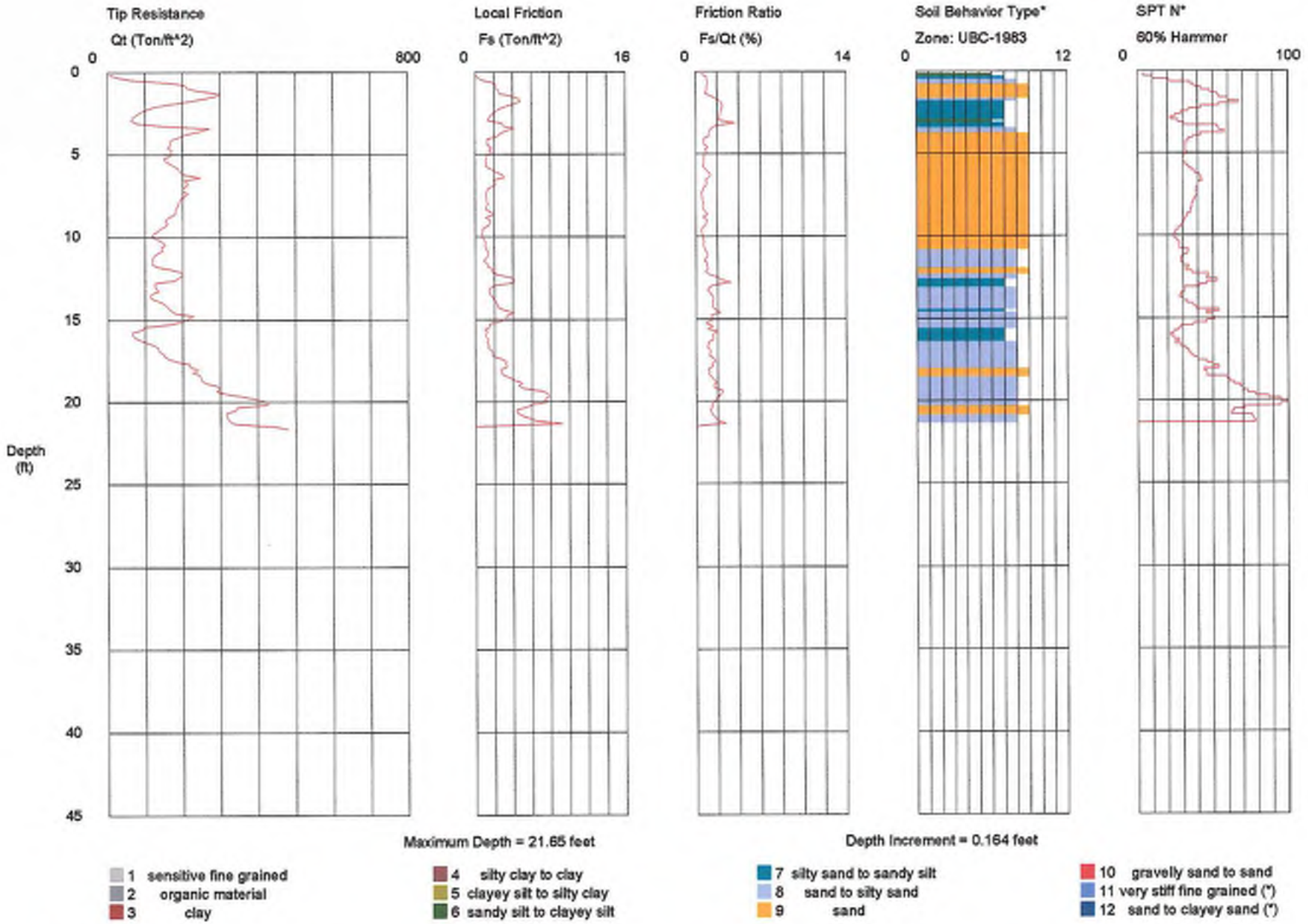
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-02
Latitude: (N) 34°13' 33.2"
Longitude: (W) 116°24' 17.8"

CPT Date/Time: 4/27/2004 9:47
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-02 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 9:47:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	63.42	1.01	SILTY SAND to SANDY SILT	21	34	63		
.300	.98	212.71	1.02	SAND	43	68	98		
.450	1.48	290.36	1.30	SAND	58	93	100		
.600	1.97	162.58	2.46	SILTY SAND to SANDY SILT	54	87	90		
.750	2.46	88.07	2.33	SILTY SAND to SANDY SILT	29	47	73		48.0
.900	2.95	63.38	2.07	SILTY SAND to SANDY SILT	21	34	63		46.0
1.050	3.44	272.21	1.52	SAND to SILTY SAND	68	100	100		
1.200	3.94	194.70	1.19	SAND to SILTY SAND	49	78	95		49.5
1.350	4.43	168.79	.76	SAND	34	54	91		48.5
1.500	4.92	169.88	1.07	SAND to SILTY SAND	42	68	92		48.0
1.650	5.41	155.74	.71	SAND	31	50	89		47.0
1.800	5.91	192.04	.88	SAND	38	61	95		47.5
1.950	6.40	247.47	1.27	SAND	49	79	100		48.5
2.100	6.89	212.19	1.03	SAND	42	66	98		47.5
2.250	7.38	215.60	.53	SAND	43	65	98		47.0
2.400	7.87	193.11	.62	SAND	39	56	95		46.5
2.550	8.37	181.07	.65	SAND	36	51	93		46.0
2.700	8.86	162.60	.68	SAND	33	45	90		45.5
2.850	9.35	154.63	.89	SAND	31	41	88		45.0
3.000	9.84	120.50	.59	SAND	24	31	80		44.0
3.150	10.33	147.72	.80	SAND	30	38	85		44.5
3.300	10.83	148.13	.85	SAND	30	37	84		44.0
3.450	11.32	120.67	.97	SAND to SILTY SAND	30	37	78		43.0
3.600	11.81	133.27	1.03	SAND to SILTY SAND	33	40	80		43.5
3.750	12.30	201.43	1.19	SAND to SILTY SAND	50	59	91		45.0
3.900	12.80	126.36	3.25	SANDY SILT to CLAYEY SILT	51	58		7.4	
4.050	13.29	137.10	1.06	SAND to SILTY SAND	34	38	79		43.0
4.200	13.78	121.10	1.68	SILTY SAND to SANDY SILT	40	44	75		42.5
4.350	14.27	161.91	1.48	SAND to SILTY SAND	40	44	83		43.5
4.500	14.76	229.44	1.45	SAND to SILTY SAND	57	61	93		44.5
4.650	15.26	168.90	.89	SAND	34	35	83		43.5
4.800	15.75	67.22	1.95	SILTY SAND to SANDY SILT	22	23	56		38.5
4.950	16.24	87.02	1.64	SILTY SAND to SANDY SILT	29	29	63		39.5
5.100	16.73	135.82	1.00	SAND to SILTY SAND	34	34	76		42.0
5.250	17.22	151.88	1.21	SAND to SILTY SAND	38	37	78		42.5
5.400	17.72	220.57	1.46	SAND to SILTY SAND	55	53	89		44.0
5.550	18.21	226.92	1.23	SAND	45	43	89		44.0
5.700	18.70	250.77	1.64	SAND to SILTY SAND	63	59	92		44.0
5.850	19.19	299.05	1.69	SAND to SILTY SAND	75	70	96		44.5
6.000	19.69	369.03	2.10	SAND to SILTY SAND	92	85	100		45.5
6.150	20.18	426.32	1.44	SAND	85	77	100		46.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-02

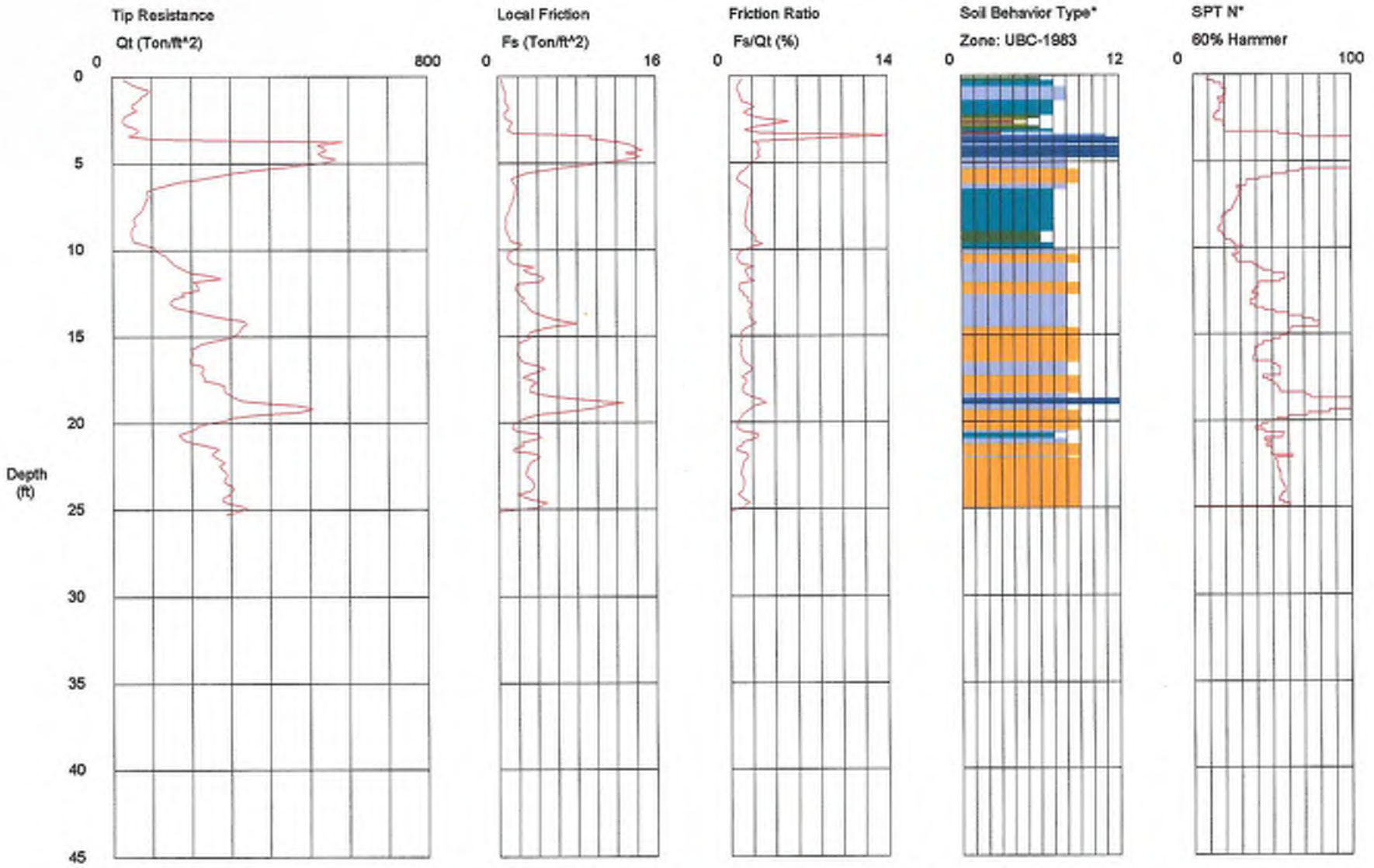
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	318.01	1.39	SAND	64	57	97		44.5
6.450	21.16	324.96	1.98	SAND to SILTY SAND	81	72	97		44.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-3
Latitude: (N) 34°13' 32.8"
Longtude: (W) 118°24' 18.7"

CPT Date/Time: 4/27/2004 9:21
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 25.26 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-03 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 9:21:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	52.11	.82	SILTY SAND to SANDY SILT	17	28	58		
.300	.98	89.02	.87	SAND to SILTY SAND	22	36	73		
.450	1.48	60.78	1.06	SILTY SAND to SANDY SILT	20	32	62		48.5
.600	1.97	61.84	1.60	SILTY SAND to SANDY SILT	21	33	63		47.5
.750	2.46	27.29	3.02	CLAYEY SILT to SILTY CLAY	14	22		1.8	
.900	2.95	56.05	2.15	SANDY SILT to CLAYEY SILT	22	36		3.7	
1.050	3.44	41.83	22.86	CLAY	42	67		2.4	
1.200	3.94	522.42	2.56	*SAND to CLAYEY SAND	100	100			
1.350	4.43	523.65	2.48	*SAND to CLAYEY SAND	100	100			
1.500	4.92	548.98	2.12	SAND to SILTY SAND	100	100	100		
1.650	5.41	351.32	1.32	SAND	70	100	100		
1.800	5.91	221.91	.61	SAND	44	71	99		48.0
1.950	6.40	114.60	1.64	SILTY SAND to SANDY SILT	38	61	80		45.5
2.100	6.89	93.03	1.78	SILTY SAND to SANDY SILT	31	48	74		44.0
2.250	7.38	81.20	1.61	SILTY SAND to SANDY SILT	27	41	70		43.5
2.400	7.87	68.60	1.44	SILTY SAND to SANDY SILT	23	33	66		42.5
2.550	8.37	55.07	1.46	SILTY SAND to SANDY SILT	18	26	59		40.5
2.700	8.86	48.09	1.66	SILTY SAND to SANDY SILT	16	22	55		39.5
2.850	9.35	51.23	2.30	SANDY SILT to CLAYEY SILT	20	27		3.4	
3.000	9.84	108.69	1.93	SILTY SAND to SANDY SILT	36	47	77		43.5
3.150	10.33	135.45	.76	SAND	27	34	83		44.0
3.300	10.83	155.85	.97	SAND to SILTY SAND	39	48	86		44.5
3.450	11.32	196.70	1.44	SAND to SILTY SAND	49	60	92		45.0
3.600	11.81	205.28	2.12	SILTY SAND to SANDY SILT	68	81	93		45.0
3.750	12.30	217.54	.79	SAND	44	51	94		45.5
3.900	12.80	155.99	1.67	SAND to SILTY SAND	39	45	83		44.0
4.050	13.29	156.70	1.91	SILTY SAND to SANDY SILT	52	58	83		43.5
4.200	13.78	244.25	1.76	SAND to SILTY SAND	61	67	95		45.5
4.350	14.27	341.32	2.35	SILTY SAND to SANDY SILT	100	100	100		46.5
4.500	14.76	319.66	1.03	SAND	64	68	100		46.0
4.650	15.26	257.21	1.02	SAND	51	54	95		45.0
4.800	15.75	199.34	1.02	SAND	40	41	88		44.0
4.950	16.24	199.74	1.09	SAND	40	40	87		44.0
5.100	16.73	229.15	1.74	SAND to SILTY SAND	57	57	91		44.0
5.250	17.22	226.21	1.44	SAND to SILTY SAND	57	56	90		44.0
5.400	17.72	266.49	1.47	SAND to SILTY SAND	67	65	94		44.5
5.550	18.21	284.92	1.12	SAND	57	55	96		45.0
5.700	18.70	323.85	2.74	*SAND to CLAYEY SAND	100	100			
5.850	19.19	508.52	1.86	SAND to SILTY SAND	100	100	100		47.0
6.000	19.69	299.72	.96	SAND	60	55	96		44.5
6.150	20.18	215.90	.65	SAND	43	39	86		43.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-03

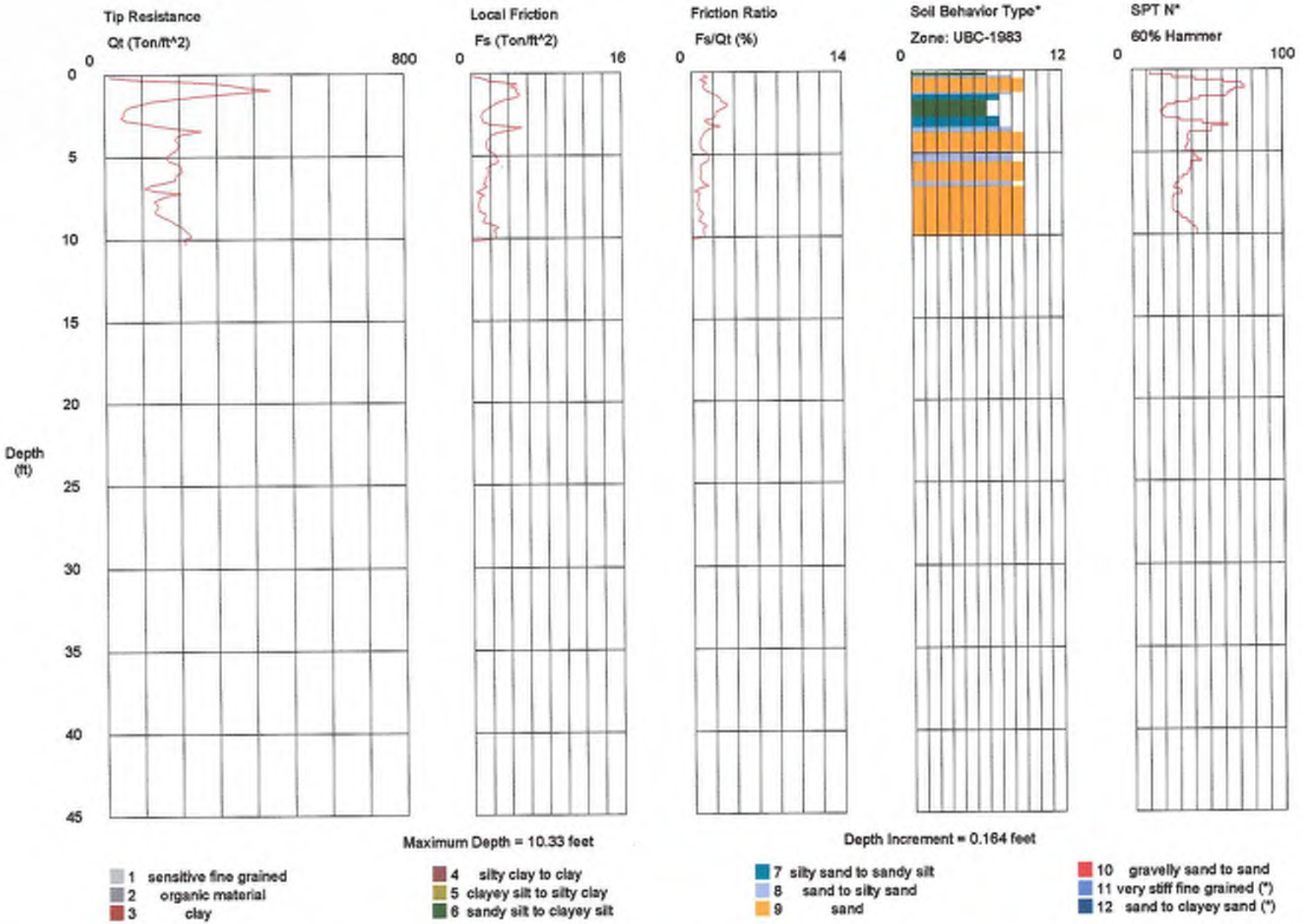
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	169.24	2.37	SILTY SAND to SANDY SILT	56	51	79		42.0
6.450	21.16	206.38	1.13	SAND	41	37	84		42.5
6.600	21.65	260.96	.57	SAND	52	46	91		44.0
6.750	22.15	272.41	1.41	SAND to SILTY SAND	68	59	92		44.0
6.900	22.64	276.24	1.06	SAND	55	47	92		44.0
7.050	23.13	287.85	1.00	SAND	58	49	93		44.0
7.200	23.62	302.64	1.19	SAND	61	51	94		44.0
7.350	24.11	297.81	.63	SAND	60	50	93		44.0
7.500	24.61	290.49	1.69	SAND to SILTY SAND	73	60	92		43.5
7.650	25.10	318.60	*****		0	0			.D

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-04
Latitude: (N) 34°13' 31.2"
Logitude: (W) 118°24' 18.4"

CPT Date/Time: 4/27/2004 9:04
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-04 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 9:04:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	252.17	.78	SAND	50	81	100		
.300	.98	443.36	1.11	SAND	89	100	100		
.450	1.48	199.07	2.46	SILTY SAND to SANDY SILT	66	100	96		
.600	1.97	67.01	3.40	SANDY SILT to CLAYEY SILT	27	43		3.9	
.750	2.46	52.21	2.27	SANDY SILT to CLAYEY SILT	21	33		3.5	
.900	2.95	103.48	1.24	SAND to SILTY SAND	26	41	77		48.0
1.050	3.44	259.57	1.73	SAND to SILTY SAND	65	100	100		
1.200	3.94	188.42	1.04	SAND	38	60	94		49.0
1.350	4.43	196.75	.82	SAND	39	63	96		49.0
1.500	4.92	170.14	1.48	SAND to SILTY SAND	43	68	92		48.0
1.650	5.41	194.24	1.46	SAND to SILTY SAND	49	78	95		48.0
1.800	5.91	207.15	.87	SAND	41	66	97		48.0
1.950	6.40	188.13	.76	SAND	38	60	94		47.0
2.100	6.89	107.70	1.59	SILTY SAND to SANDY SILT	36	56	78		45.0
2.250	7.38	167.55	.81	SAND	34	50	91		46.5
2.400	7.87	139.00	.57	SAND	28	40	86		45.5
2.550	8.37	134.59	.60	SAND	27	38	85		45.0
2.700	8.86	177.22	.74	SAND	35	49	92		46.0
2.850	9.35	210.44	1.37	SAND to SILTY SAND	53	70	97		46.0
3.000	9.84	230.22	1.10	SAND	46	60	98		46.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

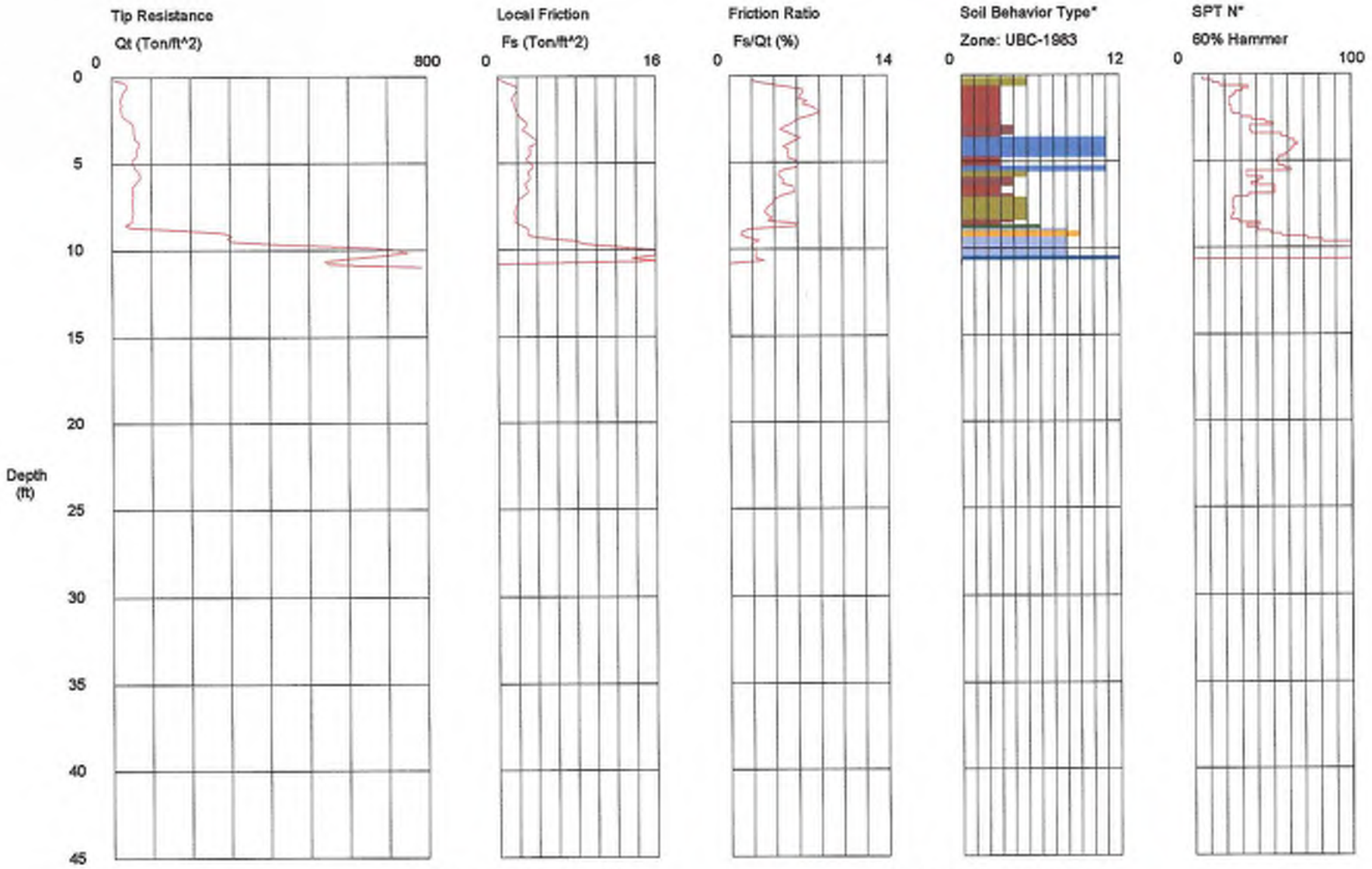
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-05
Latitude: (N) 34°13' 31.2"
Longitude: (W) 118°24' 20.2"

CPT Date/Time: 4/27/2004 10:37
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 10.99 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-05 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 10:37

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	39.80	3.53	CLAYEY SILT to SILTY CLAY	20	32		2.7	
.300	.98	28.39	6.54	CLAY	28	45		1.7	
.450	1.48	23.51	6.89	CLAY	24	38		1.4	
.600	1.97	24.73	7.77	CLAY	25	40		1.6	
.750	2.46	38.33	6.38	CLAY	38	61		2.2	
.900	2.95	56.55	4.93	CLAY to SILTY CLAY	38	60		3.3	
1.050	3.44	58.84	5.61	CLAY	59	94		3.4	
1.200	3.94	70.99	5.32	*VERY STIFF FINE GRAINED	71	100			
1.350	4.43	64.96	5.17	*VERY STIFF FINE GRAINED	65	100			
1.500	4.92	51.41	6.02	CLAY	51	82		3.0	
1.650	5.41	66.11	4.88	*VERY STIFF FINE GRAINED	66	100			
1.800	5.91	69.98	4.66	CLAY to SILTY CLAY	47	75		4.1	
1.950	6.40	51.67	5.68	CLAY	52	83		3.0	
2.100	6.89	56.47	4.76	CLAY to SILTY CLAY	38	59		3.3	
2.250	7.38	51.89	3.86	CLAYEY SILT to SILTY CLAY	26	39		3.0	
2.400	7.87	55.63	3.10	SANDY SILT to CLAYEY SILT	22	32		3.7	
2.550	8.37	50.55	3.40	CLAYEY SILT to SILTY CLAY	25	36		2.9	
2.700	8.86	182.37	1.71	SAND to SILTY SAND	46	63	93		46.0
2.850	9.35	293.15	1.58	SAND to SILTY SAND	73	98	100		47.5
3.000	9.84	644.35	1.92	SAND to SILTY SAND	100	100	100		
3.150	10.33	682.55	2.33	*SAND to CLAYEY SAND	100	100			
3.300	10.83	554.10	*****		0	0			44.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

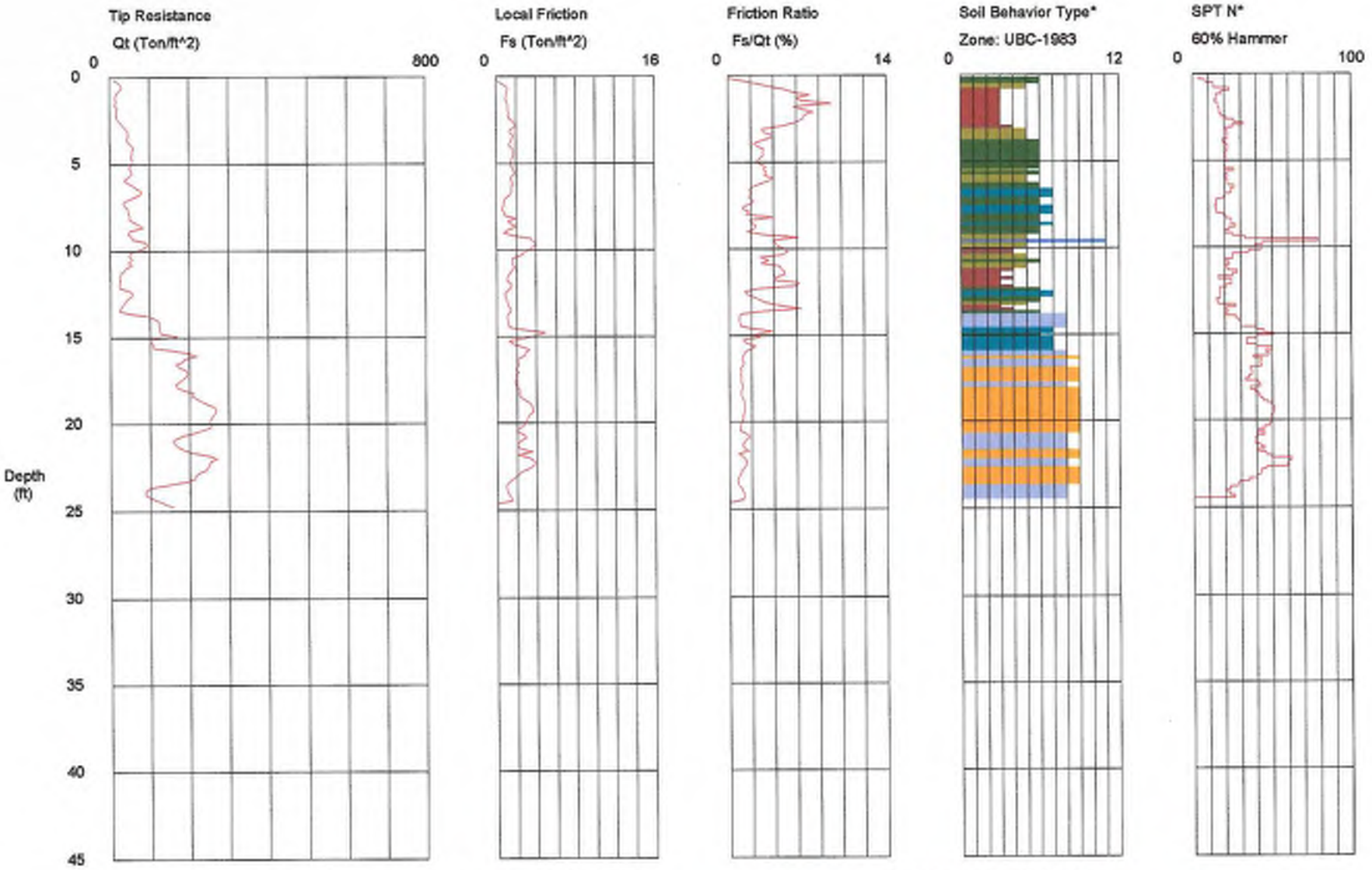
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-06
Latitude: (N) 34°13 31.3"
Longitude: (W) 118°24' 20.4"

CPT Date/Time: 4/27/2004 10:57
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-06
PROJECT : Sheldon-Arleta
DATE/TIME: 4/27/2004 10:57

PROJECT No.: 43597-1
CONE/RIG : DSA0472

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	29.23	2.58	CLAYEY SILT to SILTY CLAY	15	23		1.9	
.300	.98	17.91	5.69	CLAY	18	29		1.2	
.450	1.48	17.18	6.47	CLAY	17	27		1.1	
.600	1.97	17.73	6.57	CLAY	18	28		1.2	
.750	2.46	20.82	6.65	CLAY	21	33		1.2	
.900	2.95	38.48	4.74	CLAY to SILTY CLAY	26	41		2.3	
1.050	3.44	47.11	3.77	CLAYEY SILT to SILTY CLAY	24	38		2.8	
1.200	3.94	55.88	2.26	SANDY SILT to CLAYEY SILT	22	36		3.7	
1.350	4.43	56.18	3.05	SANDY SILT to CLAYEY SILT	22	36		3.7	
1.500	4.92	56.75	2.60	SANDY SILT to CLAYEY SILT	23	36		3.8	
1.650	5.41	55.42	3.12	SANDY SILT to CLAYEY SILT	22	35		3.7	
1.800	5.91	37.13	3.92	CLAYEY SILT to SILTY CLAY	19	30		2.2	
1.950	6.40	68.28	2.21	SILTY SAND to SANDY SILT	23	36	65		43.0
2.100	6.89	64.71	1.97	SILTY SAND to SANDY SILT	22	34	64		42.5
2.250	7.38	35.43	2.11	SANDY SILT to CLAYEY SILT	14	21		2.3	
2.400	7.87	46.61	1.86	SANDY SILT to CLAYEY SILT	19	27		3.1	
2.550	8.37	61.86	1.87	SILTY SAND to SANDY SILT	21	29	63		41.5
2.700	8.86	53.11	2.24	SANDY SILT to CLAYEY SILT	21	29		3.5	
2.850	9.35	56.56	6.18	CLAY	57	76		3.3	
3.000	9.84	83.64	4.32	CLAYEY SILT to SILTY CLAY	42	54		4.9	
3.150	10.33	49.69	4.75	CLAY to SILTY CLAY	33	42		2.9	
3.300	10.83	55.86	2.89	SANDY SILT to CLAYEY SILT	22	28		3.7	
3.450	11.32	28.01	4.97	CLAY	28	34		1.6	
3.600	11.81	26.22	4.17	CLAY to SILTY CLAY	17	21		1.7	
3.750	12.30	49.46	2.47	SANDY SILT to CLAYEY SILT	20	23		3.2	
3.900	12.80	43.57	2.25	SANDY SILT to CLAYEY SILT	17	20		2.9	
4.050	13.29	28.11	4.55	CLAY to SILTY CLAY	19	21		1.6	
4.200	13.78	96.59	1.08	SAND to SILTY SAND	24	27	69		41.0
4.350	14.27	I25.04	.97	SAND to SILTY SAND	31	34	76		42.5
4.500	14.76	127.60	3.85	CLAYEY SILT to SILTY CLAY	64	68		7.5	
4.650	15.26	I00.36	1.25	SAND to SILTY SAND	25	26	68		40.5
4.800	15.75	157.28	2.09	SILTY SAND to SANDY SILT	52	54	81		43.0
4.950	16.24	187.40	1.20	SAND to SILTY SAND	47	47	85		43.5
5.100	16.73	174.66	1.25	SAND to SILTY SAND	44	44	83		43.0
5.250	17.22	194.33	1.00	SAND	39	38	86		43.5
5.400	17.72	165.86	1.12	SAND to SILTY SAND	41	40	81		42.5
5.550	18.21	211.16	1.07	SAND	42	40	87		43.5
5.700	18.70	230.91	1.25	SAND	46	44	89		44.0
5.850	19.19	268.21	1.35	SAND	54	50	93		44.5
6.000	19.69	256.13	1.22	SAND	51	47	92		44.0
6.150	20.18	255.65	1.04	SAND	51	46	91		44.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALERT FRICTION ANGLE

SOUNDING : CPT-06

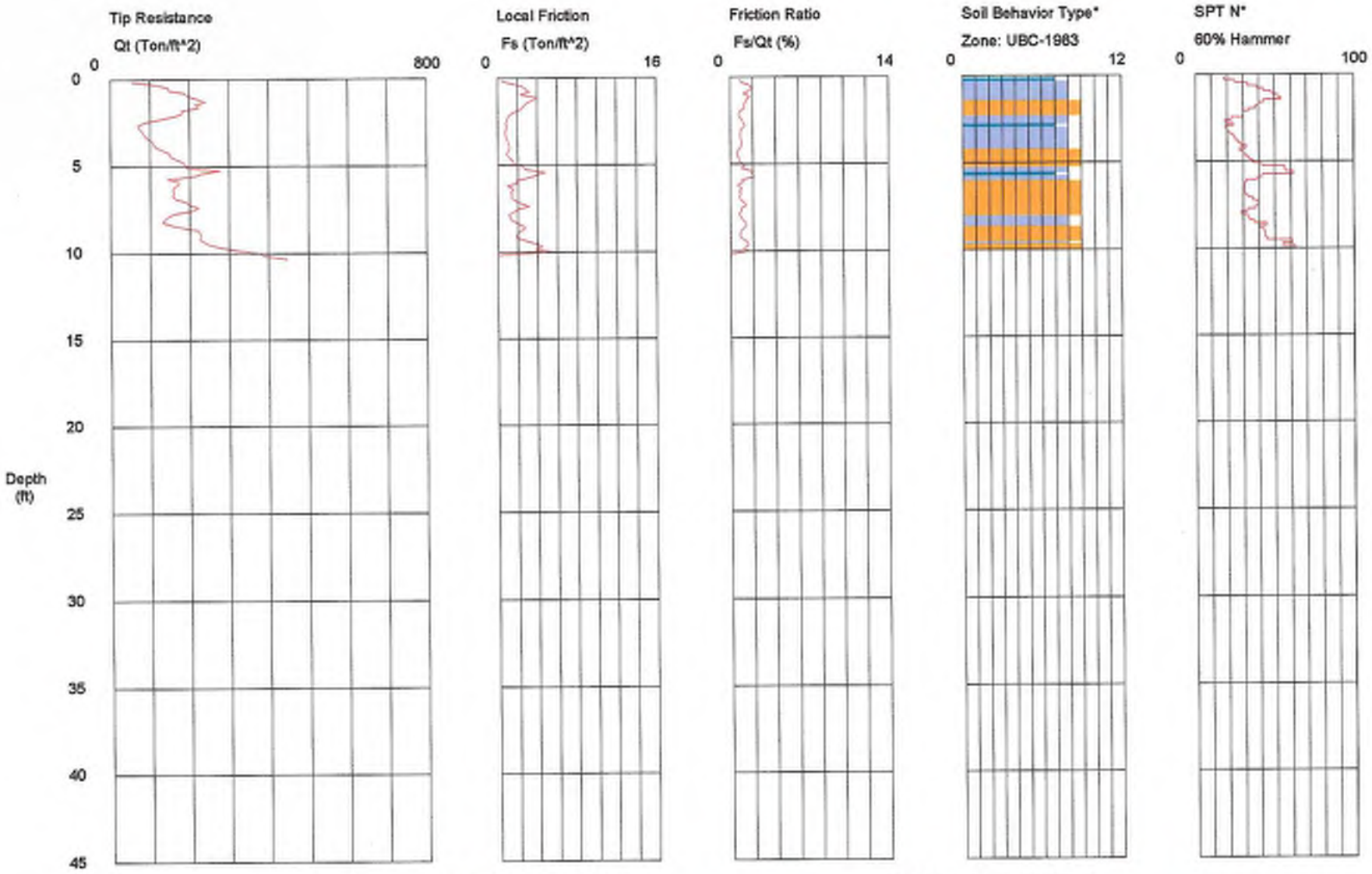
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	184.54	1.45	SAND to SILTY SAND	46	41	81		42.5
6.450	21.16	163.69	1.32	SAND to SILTY SAND	41	36	78		42.0
6.600	21.65	207.27	1.74	SAND to SILTY SAND	52	45	84		42.5
6.750	22.15	253.52	1.42	SAND to SILTY SAND	63	55	90		43.5
6.900	22.64	240.74	1.27	SAND	48	41	88		43.0
7.050	23.13	213.69	.83	SAND	43	36	84		42.5
7.200	23.62	107.98	.81	SAND to SILTY SAND	27	23	64		39.0
7.350	24.11	91.59	1.34	SAND to SILTY SAND	23	19	59		38.0
7.500	24.61	139.39	*****		0	0			43.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-07
Latitude: (N) 34°13' 29.5"
Longitude: (W) 118°24' 20.8"

CPT Date/Time: 4/27/2004 8:48
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-07 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 8:48:

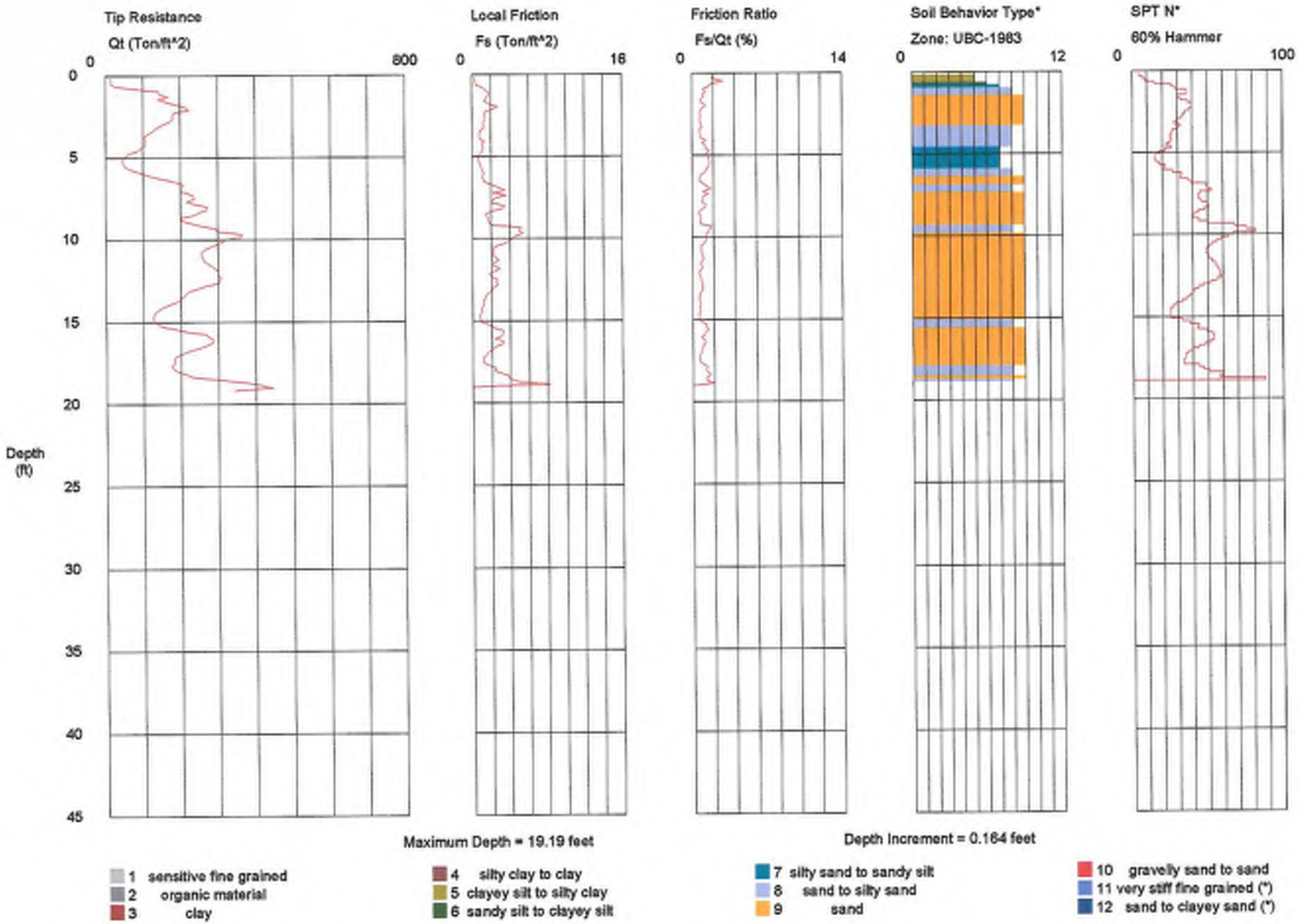
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.15D	.49	146.64	1.73	SAND to SILTY SAND	37	59	87		
.30D	.98	295.69	1.18	SAND to SILTY SAND	49	78	96		
.45D	1.48	215.58	1.35	SAND to SILTY SAND	54	86	98		
.6DD	1.97	182.81	.91	SAND	37	58	94		
.75D	2.46	89.29	1.07	SAND to SILTY SAND	22	36	73		48.0
.90D	2.95	78.64	1.09	SAND to SILTY SAND	20	31	69		47.0
1.05D	3.44	96.14	.89	SAND to SILTY SAND	24	38	75		47.0
1.20D	3.94	117.62	1.03	SAND to SILTY SAND	29	47	81		47.5
1.35D	4.43	152.43	.59	SAND	30	49	88		48.0
1.50D	4.92	191.42	.88	SAND	38	61	95		48.5
1.65D	5.41	230.23	2.09	SILTY SAND to SANDY SILT	77	100	100		48.5
1.80D	5.91	175.10	1.04	SAND	35	56	92		47.5
1.95D	6.40	157.85	1.03	SAND to SILTY SAND	39	63	89		46.5
2.10D	6.89	166.51	.82	SAND	33	52	91		46.5
2.25D	7.38	222.57	1.43	SAND to SILTY SAND	56	84	99		47.5
2.40D	7.87	147.56	.74	SAND	30	43	87		45.5
2.55D	8.37	151.21	1.33	SAND to SILTY SAND	38	53	88		45.5
2.70D	8.86	227.23	.93	SAND	45	62	100		46.5
2.85D	9.35	237.31	1.15	SAND	47	63	100		46.5
3.00D	9.84	327.37	1.15	SAND	65	85	100		48.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-08
Latitude: (N) 34°13' 28.1"
Longitude: (W) 118°24' 22.2"

CPT Date/Time: 4/27/2004 7:55
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-08 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 7:55:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	14.13	2.92	CLAY to SILTY CLAY	9	15		.9	
.300	.98	143.55	1.02	SAND to SILTY SAND	36	57	87		
.450	1.48	140.38	1.09	SAND to SILTY SAND	35	56	86		
.600	1.97	217.53	1.27	SAND to SILTY SAND	54	87	99		
.750	2.46	178.25	.75	SAND	36	57	93		
.900	2.95	159.43	.76	SAND	32	51	90		
1.050	3.44	125.84	.72	SAND	25	40	83		46.0
1.200	3.94	108.59	.78	SAND to SILTY SAND	27	43	79		47.0
1.350	4.43	95.63	1.27	SAND to SILTY SAND	24	38	75		46.0
1.500	4.92	53.42	1.28	SILTY SAND to SANDY SILT	18	28	58		43.0
1.650	5.41	49.00	1.64	SILTY SAND to SANDY SILT	16	26	56		42.5
1.800	5.91	89.97	1.29	SAND to SILTY SAND	22	36	73		44.5
1.950	6.40	167.90	.71	SAND	34	54	91		47.0
2.100	6.89	201.84	1.36	SAND to SILTY SAND	50	78	96		47.0
2.250	7.38	236.46	1.54	SAND to SILTY SAND	59	89	100		47.5
2.400	7.87	238.36	.89	SAND	48	69	100		47.5
2.550	8.37	250.90	.82	SAND	50	71	100		47.5
2.700	8.86	202.34	.85	SAND	40	56	96		46.5
2.850	9.35	294.58	1.78	SAND to SILTY SAND	74	98	100		47.5
3.000	9.84	363.58	1.28	SAND	73	95	100		48.0
3.150	10.33	291.37	1.14	SAND	58	74	100		47.0
3.300	10.83	255.65	.87	SAND	51	63	100		46.5
3.450	11.32	263.26	1.07	SAND	53	64	100		46.5
3.600	11.81	295.76	.99	SAND	59	70	100		46.5
3.750	12.30	309.19	.65	SAND	62	72	100		46.5
3.900	12.80	266.92	1.02	SAND	53	61	99		46.0
4.050	13.29	215.07	.84	SAND	43	48	92		45.0
4.200	13.78	190.52	.59	SAND	38	42	88		44.5
4.350	14.27	140.06	.65	SAND	28	30	79		43.0
4.500	14.76	126.77	.63	SAND	25	27	76		42.0
4.650	15.26	147.92	1.27	SAND to SILTY SAND	37	39	79		42.5
4.800	15.75	265.99	1.22	SAND	53	55	96		45.0
4.950	16.24	286.47	1.15	SAND	57	58	98		45.5
5.100	16.73	228.00	.93	SAND	46	46	91		44.0
5.250	17.22	181.99	.60	SAND	36	36	84		43.0
5.400	17.72	174.54	.97	SAND	35	34	82		43.0
5.550	18.21	219.10	1.44	SAND to SILTY SAND	55	52	88		44.0
5.700	18.70	375.32	1.28	SAND	75	71	100		46.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

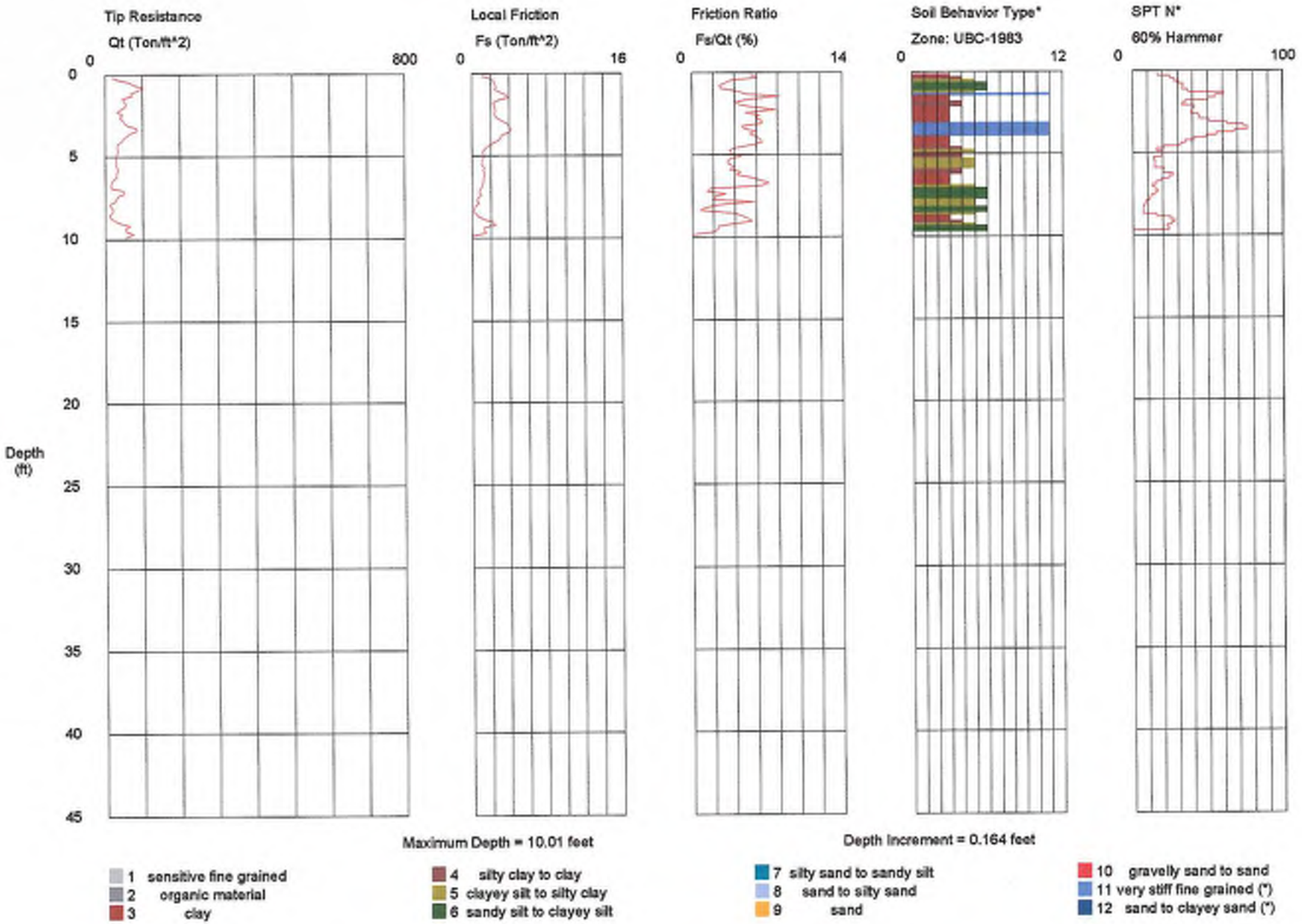
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-09
Latitude: (N) 34°13' 34.6"
Longitude: (W) 118°24' 30.6"

CPT Date/Time: 4/27/2004 12:58
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-09 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 12:58

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	65.94	3.58	CLAYEY SILT to SILTY CLAY	33	53		3.9	
.300	.98	89.74	2.70	SANDY SILT to CLAYEY SILT	36	57		5.3	
.450	1.48	47.45	8.17	CLAY	47	76		2.8	
.600	1.97	53.70	4.49	CLAY to SILTY CLAY	36	57		3.2	
.750	2.46	48.80	5.01	CLAY to SILTY CLAY	33	52		2.9	
.900	2.95	51.40	6.55	CLAY	51	82		3.0	
1.050	3.44	86.81	4.87	*VERY STIFF FINE GRAINED	87	100			
1.200	3.94	50.42	6.07	CLAY	50	81		3.0	
1.350	4.43	31.72	5.65	CLAY	32	51		1.9	
1.500	4.92	32.57	3.70	CLAYEY SILT to SILTY CLAY	16	26		2.2	
1.650	5.41	31.32	3.30	CLAYEY SILT to SILTY CLAY	16	25		2.1	
1.800	5.91	33.06	3.56	CLAYEY SILT to SILTY CLAY	17	26		2.2	
1.950	6.40	22.74	5.52	CLAY	23	36		1.3	
2.100	6.89	16.23	6.47	CLAY	16	25		1.1	
2.250	7.38	34.42	3.12	CLAYEY SILT to SILTY CLAY	17	26		2.3	
2.400	7.87	12.73	5.79	CLAY	13	19		.8	
2.550	8.37	19.30	.77	SANDY SILT to CLAYEY SILT	8	11		1.5	
2.700	8.86	24.51	5.19	CLAY	25	34		1.4	
2.850	9.35	54.47	2.40	SANDY SILT to CLAYEY SILT	22	29		3.6	
3.000	9.84	55.53	*****		0	0			48.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

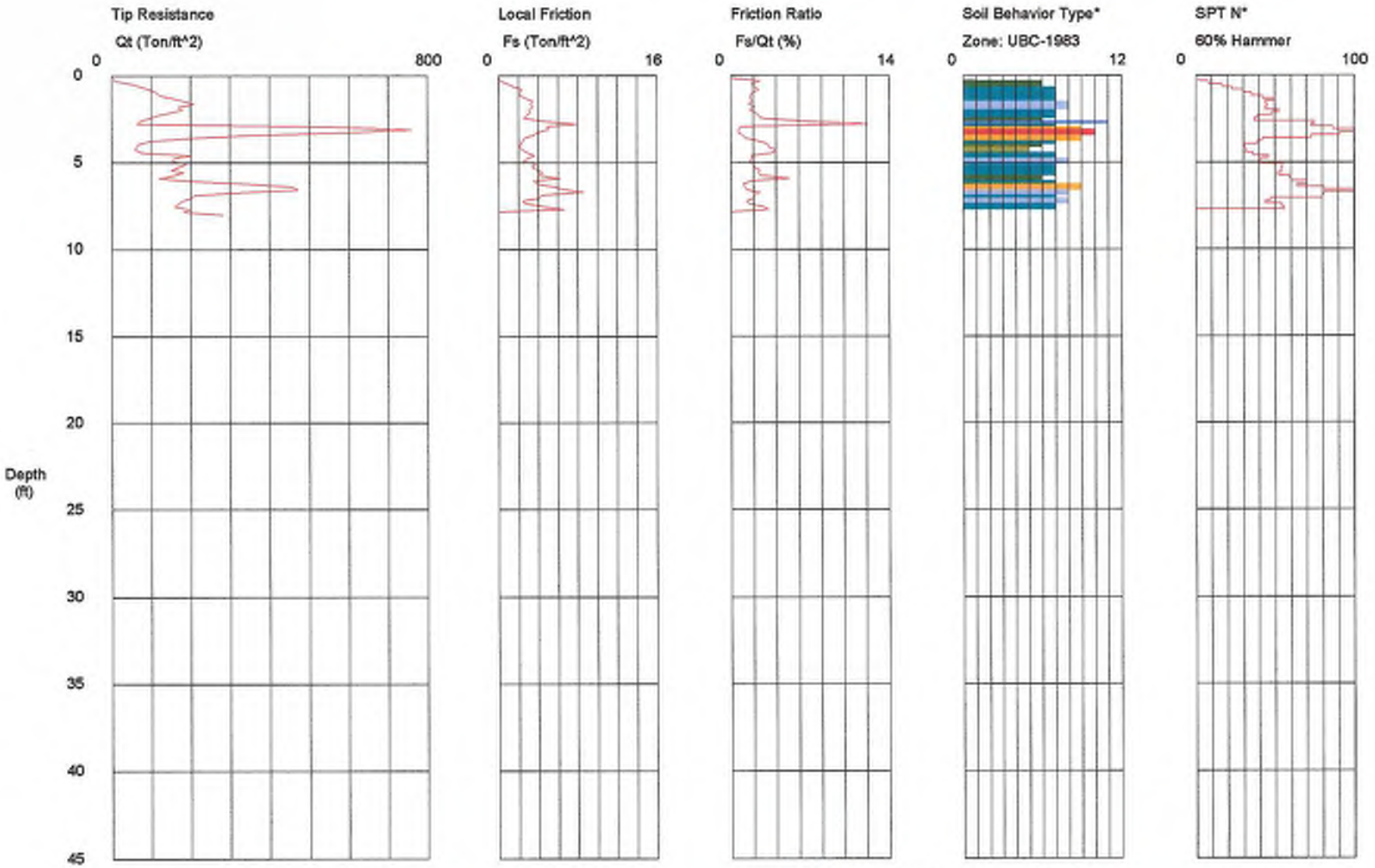
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-10
Latitude: (N) 34°13' 41.5"
Longitude: (W) 118°24' 30.2"

CPT Date/Time: 4/27/2004 1:17
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 8.04 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-10 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 1:17:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	49.77	1.80	SILTY SAND to SANDY SILT	17	27	56		
.300	.98	114.28	1.89	SILTY SAND to SANDY SILT	38	61	80		
.450	1.48	181.62	1.93	SILTY SAND to SANDY SILT	61	97	93		
.600	1.97	180.12	1.69	SAND to SILTY SAND	45	72	93		
.750	2.46	96.16	2.65	SANDY SILT to CLAYEY SILT	38	62		5.6	
.900	2.95	545.54	.90	GRAVELLY SAND to SAND	91	100	100		
1.050	3.44	356.95	1.01	SAND	71	100	100		
1.200	3.94	69.87	3.27	SANDY SILT to CLAYEY SILT	28	45		4.1	
1.350	4.43	75.59	3.80	CLAYEY SILT to SILTY CLAY	38	60		4.4	
1.500	4.92	153.79	1.63	SAND to SILTY SAND	38	61	89		47.5
1.650	5.41	150.70	2.59	SILTY SAND to SANDY SILT	50	80	88		47.0
1.800	5.91	120.33	5.17	*VERY STIFF FINE GRAINED	100	100			
1.950	6.40	458.38	1.21	SAND	92	100	100		
2.100	6.89	209.03	2.08	SILTY SAND to SANDY SILT	70	100	97		47.5
2.250	7.38	171.08	1.56	SAND to SILTY SAND	43	64	92		46.5
2.400	7.87	184.44	*****		0	0			

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

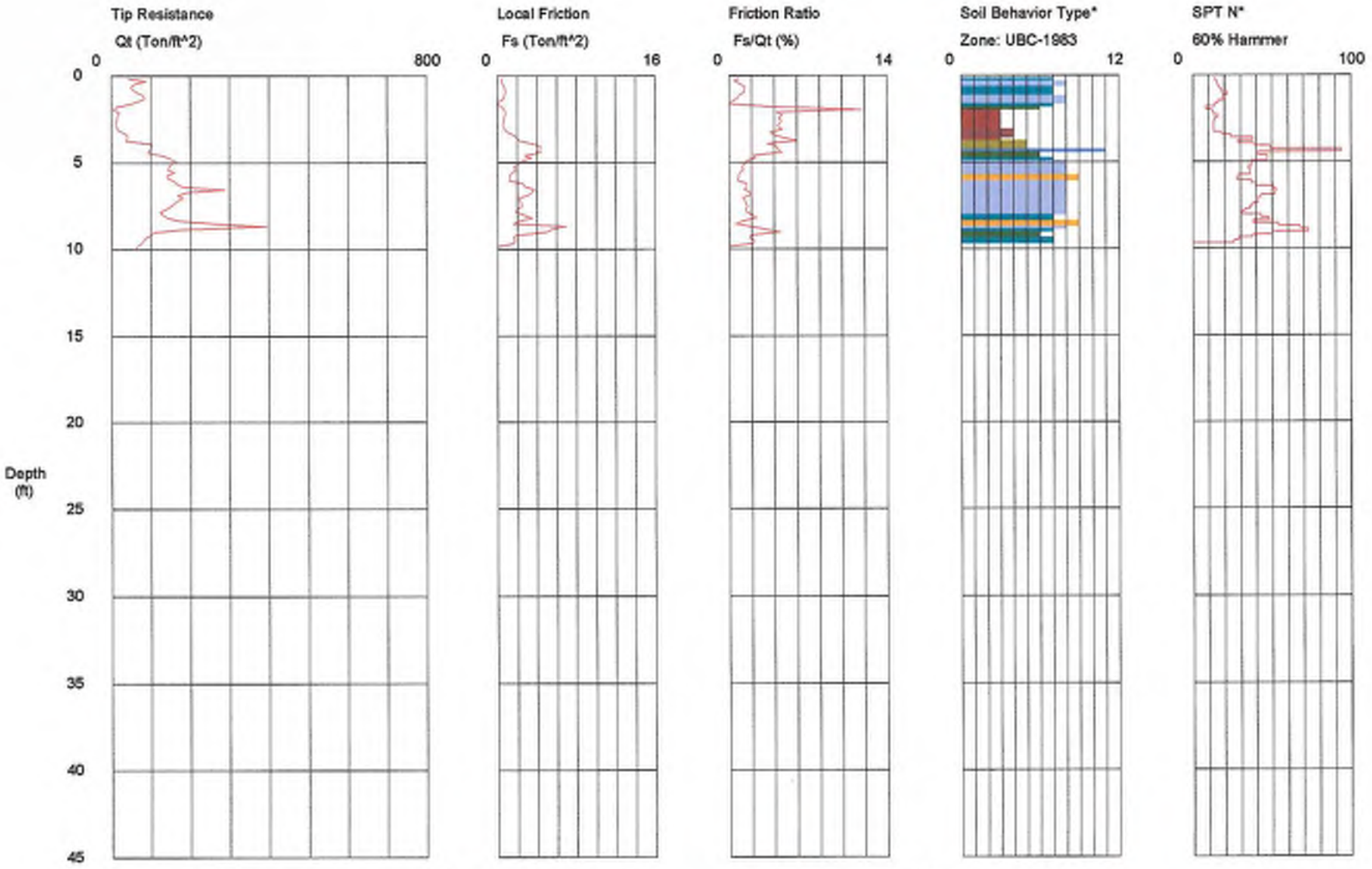
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-11
Latitude: (N) 34°13' 43.0"
Longitude: (W) 118°24' 26.9"

CPT Date/Time: 4/27/2004 1:54
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 10.01 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-11 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 1:54:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	58.42	.99	SILTY SAND to SANDY SILT	19	31	61		
.300	.98	66.75	1.32	SILTY SAND to SANDY SILT	22	36	65		
.450	1.48	70.30	.33	SAND to SILTY SAND	18	28	66		49.0
.600	1.97	5.47	11.70	CLAY	5	9		.4	
.750	2.46	14.73	4.38	CLAY	15	24		1.0	
.900	2.95	13.55	4.34	CLAY	14	22		.9	
1.050	3.44	40.91	3.93	CLAYEY SILT to SILTY CLAY	20	33		2.4	
1.200	3.94	102.95	3.43	SANDY SILT to CLAYEY SILT	41	66		6.0	
1.350	4.43	93.14	4.70	*VERY STIFF FINE GRAINED	93	100			
1.500	4.92	164.17	1.48	SAND to SILTY SAND	41	66	91		48.0
1.650	5.41	144.63	1.31	SAND to SILTY SAND	36	58	87		47.0
1.800	5.91	144.99	.83	SAND	29	46	87		46.5
1.950	6.40	180.97	1.55	SAND to SILTY SAND	45	72	93		47.0
2.100	6.89	168.31	1.88	SILTY SAND to SANDY SILT	56	87	91		46.5
2.250	7.38	160.18	1.50	SAND to SILTY SAND	40	60	90		46.0
2.400	7.87	122.81	1.53	SAND to SILTY SAND	31	45	82		44.5
2.550	8.37	174.54	1.31	SAND to SILTY SAND	44	62	92		46.0
2.700	8.86	180.21	3.08	SANDY SILT to CLAYEY SILT	72	99		10.6	
2.850	9.35	87.72	1.83	SILTY SAND to SANDY SILT	29	39	71		42.5
3.000	9.84	64.57	*****		0	0			.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

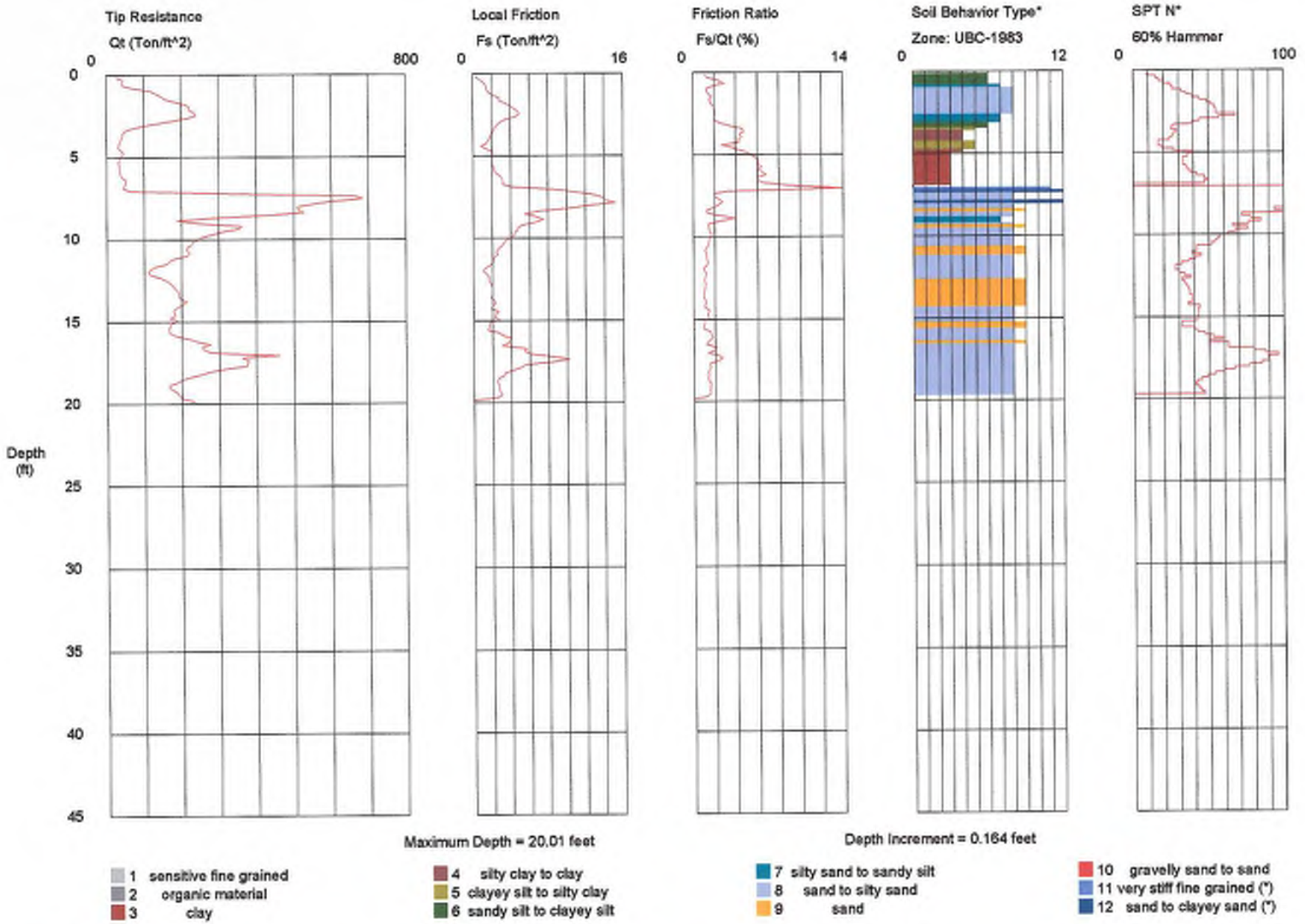
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 1-1
Latitude: (N) 34°13' 32.1"
Longitude: (W) 118°24' 19.0"

CPT Date/Time: 4/28/2004 10:11
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 1-1 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 10:11

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	42.43	2.38	SANDY SILT to CLAYEY SILT	17	27		2.8	
.300	.98	118.35	1.23	SAND to SILTY SAND	30	47	81		
.450	1.48	156.11	1.77	SAND to SILTY SAND	39	62	89		
.600	1.97	222.46	1.79	SAND to SILTY SAND	56	89	99		
.750	2.46	241.01	2.08	SAND to SILTY SAND	60	96	100		
.900	2.95	140.39	2.08	SILTY SAND to SANDY SILT	47	75	86		49.0
1.050	3.44	50.03	4.59	CLAY to SILTY CLAY	33	53		2.9	
1.200	3.94	39.95	4.55	CLAY to SILTY CLAY	27	43		2.3	
1.350	4.43	32.78	2.67	CLAYEY SILT to SILTY CLAY	16	26		2.2	
1.500	4.92	41.56	5.26	CLAY	42	66		2.4	
1.650	5.41	33.55	6.13	CLAY	34	54		2.0	
1.800	5.91	37.24	6.06	CLAY	37	60		2.2	
1.950	6.40	52.21	5.99	CLAY	52	83		3.0	
2.100	6.89	45.82	8.97	CLAY	46	71		2.7	
2.250	7.38	665.30	1.94	SAND to SILTY SAND	100	100	100		
2.400	7.87	555.40	2.74	*SAND to CLAYEY SAND	100	100			
2.550	8.37	528.74	1.31	SAND	100	100	100		
2.700	8.86	189.20	3.95	*SAND to CLAYEY SAND	95	100			
2.850	9.35	355.16	1.35	SAND	71	95	100		48.0
3.000	9.84	256.82	1.71	SAND to SILTY SAND	64	84	100		46.5
3.150	10.33	226.82	1.42	SAND to SILTY SAND	57	72	97		46.0
3.300	10.83	222.93	1.08	SAND	45	55	96		46.0
3.450	11.32	168.79	1.26	SAND to SILTY SAND	42	51	88		44.5
3.600	11.81	116.68	1.09	SAND to SILTY SAND	29	35	76		43.0
3.750	12.30	143.73	1.15	SAND to SILTY SAND	36	42	82		43.5
3.900	12.80	175.74	1.11	SAND to SILTY SAND	44	50	87		44.0
4.050	13.29	193.84	1.03	SAND	39	43	89		44.5
4.200	13.78	214.55	1.03	SAND	43	47	92		44.5
4.350	14.27	178.24	1.09	SAND to SILTY SAND	45	48	86		44.0
4.500	14.76	169.72	1.31	SAND to SILTY SAND	42	45	84		43.5
4.650	15.26	169.46	1.02	SAND	34	35	83		43.5
4.800	15.75	170.67	1.57	SAND to SILTY SAND	43	44	83		43.0
4.950	16.24	246.04	1.55	SAND to SILTY SAND	62	62	93		44.5
5.100	16.73	259.64	2.17	SILTY SAND to SANDY SILT	87	86	94		44.5
5.250	17.22	361.23	2.30	SAND to SILTY SAND	90	89	100		46.0
5.400	17.72	374.28	1.48	SAND	75	73	100		46.0
5.550	18.21	252.82	1.30	SAND	51	48	92		44.5
5.700	18.70	188.80	1.32	SAND to SILTY SAND	47	45	84		43.0
5.850	19.19	179.15	1.52	SAND to SILTY SAND	45	42	82		42.5
6.000	19.69	204.43	1.24	SAND to SILTY SAND	51	47	85		43.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

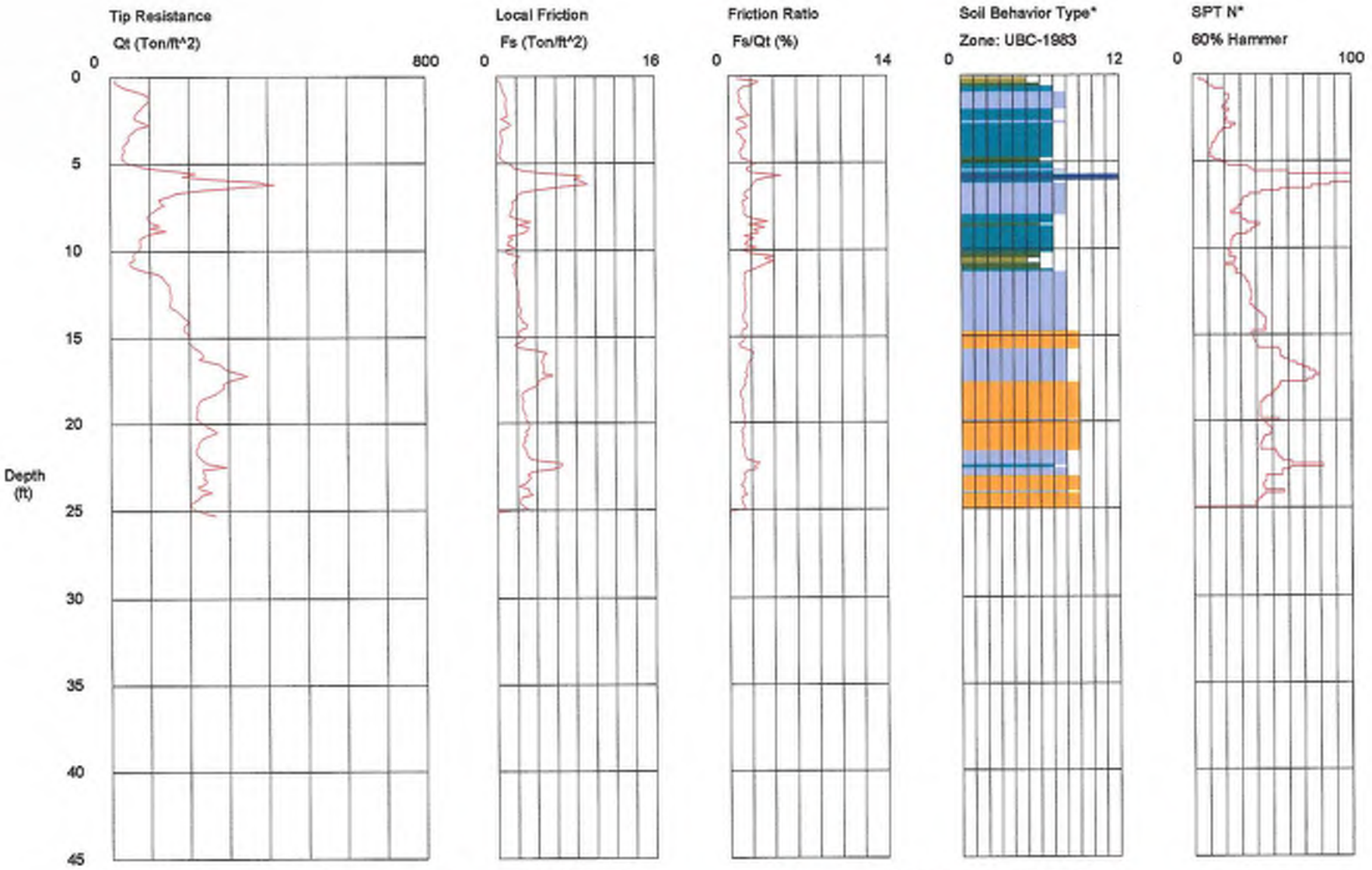
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 1-2
Latitude: (N) 34°13' 32.4"
Longitude: (W) 118°24' 19.6"

CPT Date/Time: 4/28/2004 10:40
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 25.26 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 1-2 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 10:40

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	23.79	2.24	CLAYEY SILT to SILTY CLAY	12	19		1.6	
.300	.98	86.18	.83	SAND to SILTY SAND	22	34	72		
.450	1.48	95.23	.94	SAND to SILTY SAND	24	38	75		
.600	1.97	71.19	1.47	SILTY SAND to SANDY SILT	24	38	67		48.0
.750	2.46	64.46	.68	SAND to SILTY SAND	16	26	64		47.0
.900	2.95	68.62	1.64	SILTY SAND to SANDY SILT	23	37	66		46.5
1.050	3.44	46.00	1.10	SILTY SAND to SANDY SILT	15	25	54		44.0
1.200	3.94	35.32	1.31	SILTY SAND to SANDY SILT	12	19	47		42.5
1.350	4.43	31.77	.98	SILTY SAND to SANDY SILT	11	17	43		41.5
1.500	4.92	40.98	1.96	SANDY SILT to CLAYEY SILT	16	26		2.7	
1.650	5.41	165.19	1.59	SAND to SILTY SAND	41	66	91		47.5
1.800	5.91	262.15	2.99	SILTY SAND to SANDY SILT	87	100	100		49.0
1.950	6.40	309.29	2.01	SAND to SILTY SAND	77	100	100		49.5
2.100	6.89	149.41	1.37	SAND to SILTY SAND	37	58	88		46.0
2.250	7.38	136.42	1.22	SAND to SILTY SAND	34	51	85		45.5
2.400	7.87	101.90	1.33	SAND to SILTY SAND	25	37	77		44.0
2.550	8.37	101.22	3.45	SANDY SILT to CLAYEY SILT	40	57		5.9	
2.700	8.86	142.15	2.21	SILTY SAND to SANDY SILT	47	65	86		45.0
2.850	9.35	73.43	2.22	SILTY SAND to SANDY SILT	24	33	66		42.0
3.000	9.84	75.47	2.45	SANDY SILT to CLAYEY SILT	30	39		5.0	
3.150	10.33	59.05	3.94	CLAYEY SILT to SILTY CLAY	30	37		3.4	
3.300	10.83	51.12	3.15	SANDY SILT to CLAYEY SILT	20	25		3.4	
3.450	11.32	114.93	1.43	SAND to SILTY SAND	29	35	76		43.0
3.600	11.81	141.96	1.40	SAND to SILTY SAND	35	42	82		44.0
3.750	12.30	150.04	1.42	SAND to SILTY SAND	38	44	83		44.0
3.900	12.80	154.46	1.38	SAND to SILTY SAND	39	44	83		44.0
4.050	13.29	156.39	1.47	SAND to SILTY SAND	39	44	83		43.5
4.200	13.78	183.42	1.21	SAND to SILTY SAND	46	50	87		44.0
4.350	14.27	190.55	1.61	SAND to SILTY SAND	48	51	88		44.0
4.500	14.76	196.13	1.09	SAND	39	42	88		44.0
4.650	15.26	199.30	1.25	SAND to SILTY SAND	50	52	88		44.0
4.800	15.75	225.16	1.67	SAND to SILTY SAND	56	58	91		44.5
4.950	16.24	225.85	2.06	SILTY SAND to SANDY SILT	75	76	91		44.5
5.100	16.73	284.74	1.64	SAND to SILTY SAND	71	71	97		45.0
5.250	17.22	346.43	1.63	SAND to SILTY SAND	87	85	100		46.0
5.400	17.72	285.08	1.47	SAND to SILTY SAND	71	69	96		45.0
5.550	18.21	269.35	.97	SAND	54	52	94		44.5
5.700	18.70	224.88	1.18	SAND	45	42	89		44.0
5.850	19.19	221.48	1.18	SAND	44	41	88		43.5
6.000	19.69	216.56	1.31	SAND to SILTY SAND	54	50	87		43.5
6.150	20.18	242.73	1.33	SAND to SILTY SAND	61	55	90		44.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

SOUNDING : CPT-AL 1-2

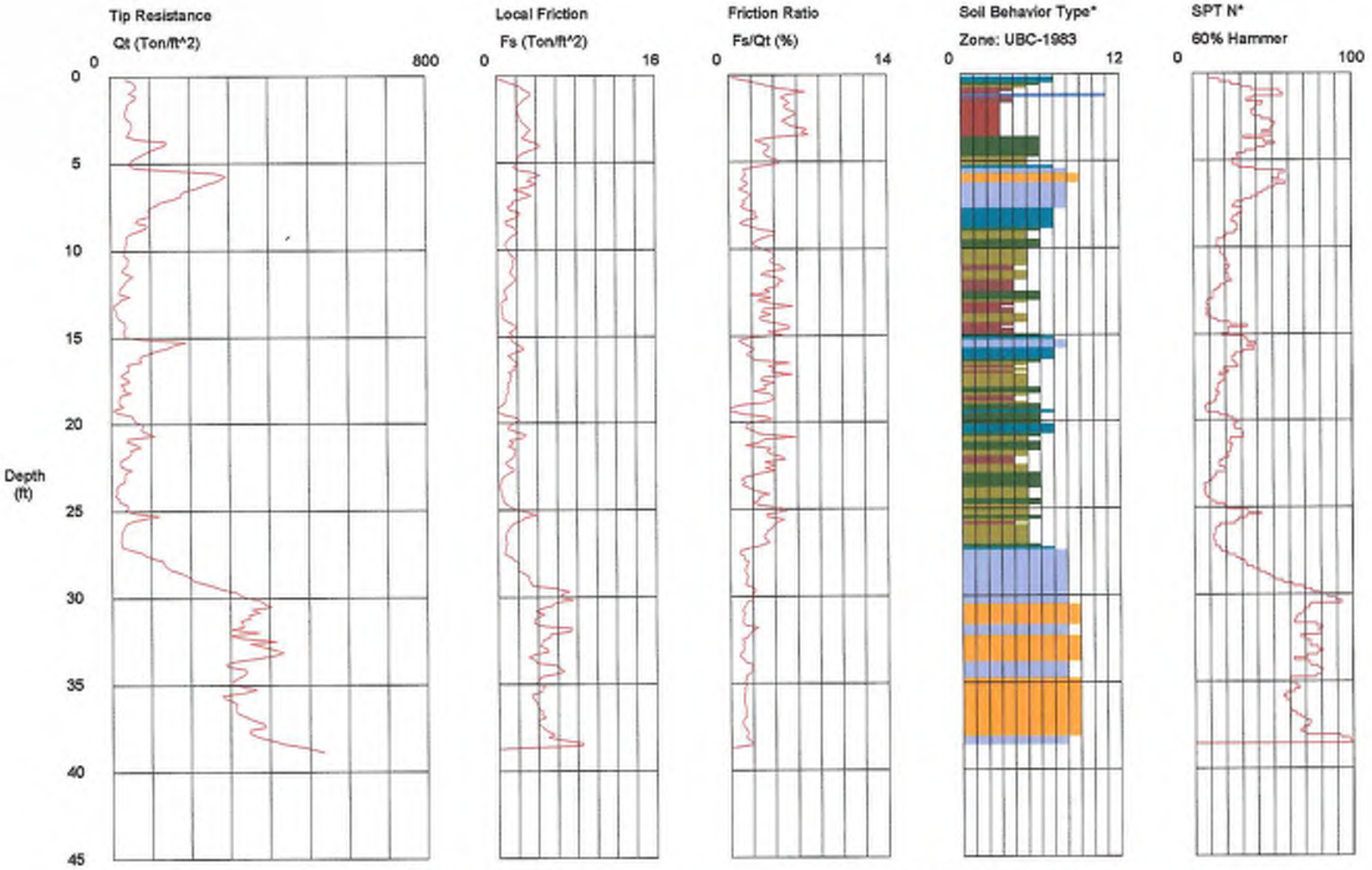
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	250.96	1.23	SAND	50	45	90		44.0
6.450	21.16	221.55	1.18	SAND	44	39	86		43.0
6.600	21.65	216.80	1.33	SAND to SILTY SAND	54	48	85		43.0
6.750	22.15	234.10	1.60	SAND to SILTY SAND	59	51	87		43.0
6.900	22.64	233.30	2.41	SILTY SAND to SANDY SILT	78	67	87		43.0
7.050	23.13	233.82	1.45	SAND to SILTY SAND	58	50	87		43.0
7.200	23.62	219.53	.98	SAND	44	37	85		42.5
7.350	24.11	228.37	1.55	SAND to SILTY SAND	57	47	85		42.5
7.500	24.61	201.21	1.12	SAND	40	33	81		42.0
7.650	25.10	233.29	*****		0	0			.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 1-3
Latitude: (N) 34°13' 32.5"
Longitude: (W) 118°24' 19.9"

CPT Date/Time: 4/28/2004 2:06
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 38.88 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 1-3 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 2:08:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	63.24	2.53	SANDY SILT to CLAYEY SILT	25	40		4.2	
.300	.98	48.87	6.82	CLAY	49	78		2.9	
.450	1.48	51.28	5.15	CLAY	51	82		3.0	
.600	1.97	39.80	5.12	CLAY	40	64		2.3	
.750	2.46	43.96	5.41	CLAY	44	70		2.6	
.900	2.95	55.11	5.55	CLAY	55	88		3.2	
1.050	3.44	41.75	7.09	CLAY	42	67		2.4	
1.200	3.94	139.66	3.03	SANDY SILT to CLAYEY SILT	56	89		8.2	
1.350	4.43	88.06	3.13	SANDY SILT to CLAYEY SILT	35	56		5.2	
1.500	4.92	51.01	4.39	CLAY to SILTY CLAY	34	54		3.0	
1.650	5.41	168.61	1.28	SAND to SILTY SAND	42	67	91		47.5
1.800	5.91	281.43	1.18	SAND	56	90	100		49.0
1.950	6.40	221.26	1.43	SAND to SILTY SAND	55	88	99		48.0
2.100	6.89	178.81	1.96	SILTY SAND to SANDY SILT	60	93	93		46.5
2.250	7.38	118.40	1.41	SAND to SILTY SAND	30	44	81		45.0
2.400	7.87	98.64	2.36	SILTY SAND to SANDY SILT	33	48	76		44.0
2.550	8.37	65.00	1.35	SILTY SAND to SANDY SILT	22	31	64		42.0
2.700	8.86	72.72	2.58	SANDY SILT to CLAYEY SILT	29	40		4.8	
2.850	9.35	39.69	3.13	CLAYEY SILT to SILTY CLAY	20	26		2.6	
3.000	9.84	37.47	2.43	SANDY SILT to CLAYEY SILT	15	20		2.5	
3.150	10.33	37.20	4.00	CLAYEY SILT to SILTY CLAY	19	24		2.2	
3.300	10.83	43.44	3.77	CLAYEY SILT to SILTY CLAY	22	27		2.5	
3.450	11.32	38.70	3.31	CLAYEY SILT to SILTY CLAY	19	23		2.5	
3.600	11.81	35.75	4.80	CLAY	36	42		2.1	
3.750	12.30	22.58	3.14	CLAYEY SILT to SILTY CLAY	11	13		1.5	
3.900	12.80	26.34	3.73	CLAY to SILTY CLAY	18	20		1.7	
4.050	13.29	8.35	5.63	CLAY	8	9		.5	
4.200	13.78	16.21	3.72	CLAY to SILTY CLAY	11	12		1.0	
4.350	14.27	37.32	4.20	CLAY to SILTY CLAY	25	27		2.1	
4.500	14.76	35.04	3.42	CLAYEY SILT to SILTY CLAY	18	19		2.3	
4.650	15.26	190.11	.81	SAND	38	40	87		44.0
4.800	15.75	119.38	2.22	SILTY SAND to SANDY SILT	40	41	73		42.0
4.950	16.24	72.28	1.98	SILTY SAND to SANDY SILT	24	24	58		38.5
5.100	16.73	45.89	3.47	CLAYEY SILT to SILTY CLAY	23	23		2.6	
5.250	17.22	26.35	5.54	CLAY	26	26		1.5	
5.400	17.72	25.94	3.92	CLAY to SILTY CLAY	17	17		1.7	
5.550	18.21	51.14	2.15	SANDY SILT to CLAYEY SILT	20	20		3.3	
5.700	18.70	21.18	3.92	CLAY to SILTY CLAY	14	13		1.3	
5.850	19.19	6.80	-.56		0	0			43.5
6.000	19.69	57.24	3.34	CLAYEY SILT to SILTY CLAY	29	26		3.3	
6.150	20.18	79.63	1.46	SILTY SAND to SANDY SILT	27	24	58		38.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 1-3

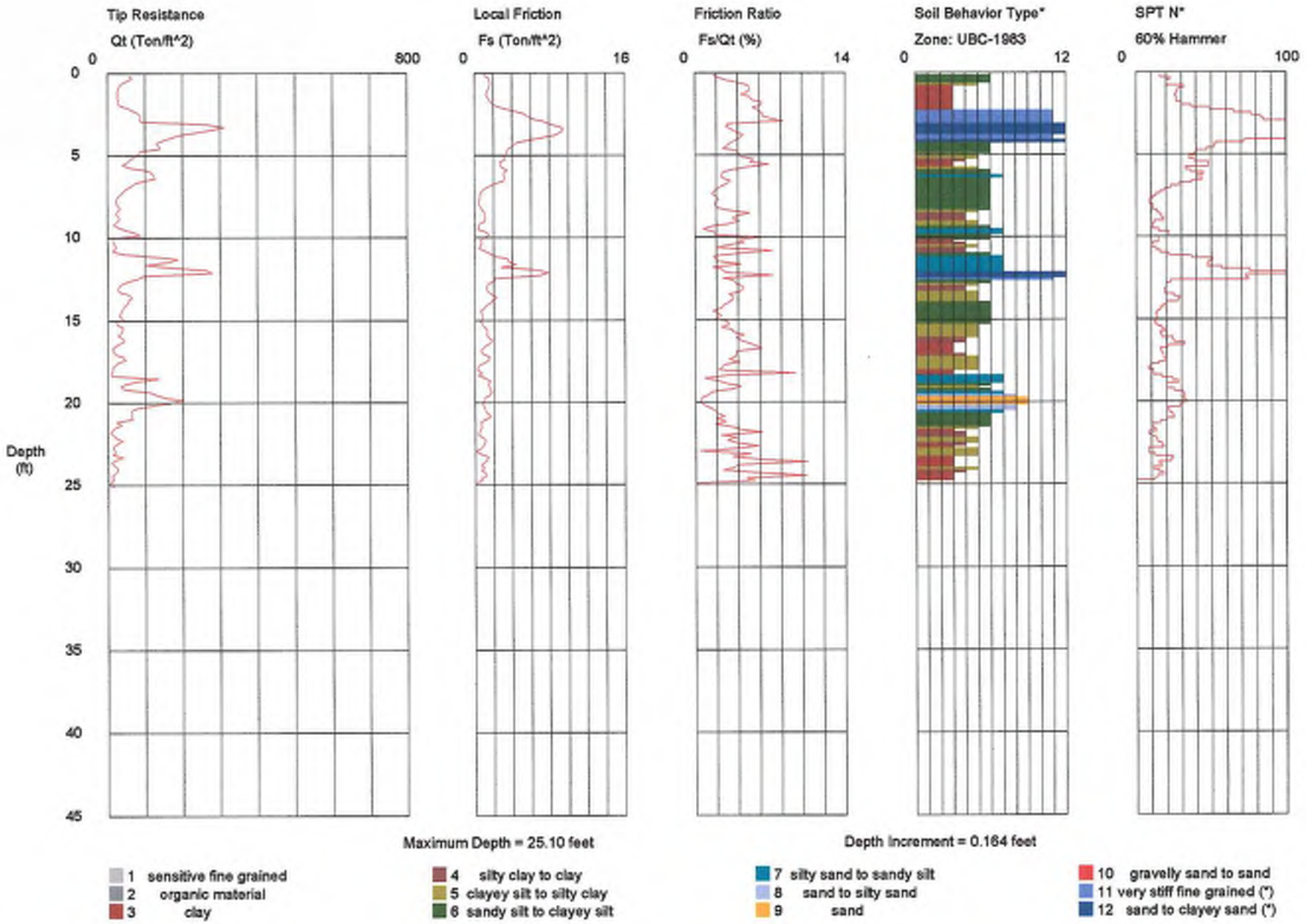
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	111.11	2.61	SILTY SAND to SANDY SILT	37	33	67		39.5
6.450	21.16	60.10	2.64	SANDY SILT to CLAYEY SILT	24	21		3.9	
6.600	21.65	51.79	3.33	CLAYEY SILT to SILTY CLAY	26	23		3.0	
6.750	22.15	23.68	4.91	CLAY	24	21		1.3	
6.900	22.64	51.75	3.13	SANDY SILT to CLAYEY SILT	21	18		3.4	
7.050	23.13	34.68	1.49	SANDY SILT to CLAYEY SILT	14	12		2.7	
7.200	23.62	14.80	1.05	SANDY SILT to CLAYEY SILT	6	5		1.1	
7.350	24.11	9.56	3.49	CLAY	10	8		.5	
7.500	24.61	38.01	2.04	SANDY SILT to CLAYEY SILT	15	13		2.4	
7.650	25.10	54.61	5.05	CLAY to SILTY CLAY	36	30		3.1	
7.800	25.59	50.71	4.78	CLAY to SILTY CLAY	34	27		2.9	
7.950	26.08	28.72	3.71	CLAYEY SILT to SILTY CLAY	14	11		1.8	
8.100	26.57	26.09	2.94	CLAYEY SILT to SILTY CLAY	13	10		1.6	
8.250	27.07	27.51	2.97	CLAYEY SILT to SILTY CLAY	14	11		1.7	
8.400	27.56	85.88	.79	SAND to SILTY SAND	21	17	55		37.5
8.550	28.05	131.26	1.62	SAND to SILTY SAND	33	25	67		39.0
8.700	28.54	172.37	1.27	SAND to SILTY SAND	43	33	75		40.0
8.850	29.04	209.12	1.47	SAND to SILTY SAND	52	40	80		41.5
9.000	29.53	282.42	2.06	SAND to SILTY SAND	71	53	89		42.5
9.150	30.02	344.64	1.85	SAND to SILTY SAND	86	64	94		43.5
9.300	30.51	404.50	1.33	SAND	81	60	98		44.0
9.450	31.00	346.52	1.35	SAND	69	51	94		43.5
9.600	31.50	332.00	1.09	SAND	66	48	92		43.0
9.750	31.99	372.52	1.96	SAND to SILTY SAND	93	67	95		43.5
9.900	32.48	417.14	1.08	SAND	83	60	98		44.0
10.050	32.97	409.89	1.19	SAND	82	58	98		44.0
10.200	33.46	374.43	.81	SAND	75	53	95		43.5
10.350	33.96	292.29	1.98	SAND to SILTY SAND	73	51	88		42.0
10.500	34.45	333.95	1.74	SAND to SILTY SAND	83	58	91		42.5
10.650	34.94	305.56	1.22	SAND	61	42	88		42.5
10.800	35.43	337.49	1.30	SAND	67	46	91		42.5
10.950	35.93	305.27	1.19	SAND	61	42	88		42.0
11.100	36.42	313.35	1.28	SAND	63	42	88		42.0
11.250	36.91	348.21	1.36	SAND	70	47	91		42.5
11.400	37.40	389.32	1.10	SAND	78	52	94		43.0
11.550	37.89	359.90	1.57	SAND to SILTY SAND	90	60	92		42.5
11.700	38.39	437.02	1.96	SAND to SILTY SAND	100	72	97		43.5
11.850	38.88	536.67	*****		0	0			.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 1-4
Latitude: (N) 34°13' 32.8"
Longitude: (W) 118°24' 20.3"

CPT Date/Time: 4/28/2004 2:49
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 1-4 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 2:49:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	52.21	3.06	SANDY SILT to CLAYEY SILT	21	33		3.5	
.300	.98	29.62	5.07	CLAY	30	47		1.7	
.450	1.48	26.33	5.12	CLAY	26	42		1.5	
.600	1.97	34.87	6.17	CLAY	35	56		2.0	
.750	2.46	82.47	6.27	*VERY STIFF FINE GRAINED	82	100			
.900	2.95	89.05	8.20	*VERY STIFF FINE GRAINED	89	100			
1.050	3.44	283.00	3.35	*SAND to CLAYEY SAND	100	100			
1.200	3.94	170.46	4.24	*VERY STIFF FINE GRAINED	100	100			
1.350	4.43	137.85	2.99	SANDY SILT to CLAYEY SILT	55	88		8.1	
1.500	4.92	82.95	4.13	CLAYEY SILT to SILTY CLAY	41	66		4.9	
1.650	5.41	51.79	5.14	CLAY	52	83		3.0	
1.800	5.91	105.47	3.33	SANDY SILT to CLAYEY SILT	42	67		6.2	
1.950	6.40	127.81	2.54	SILTY SAND to SANDY SILT	43	68	83		46.0
2.100	6.89	61.84	2.50	SANDY SILT to CLAYEY SILT	25	38		4.1	
2.250	7.38	35.23	1.55	SANDY SILT to CLAYEY SILT	14	21		2.8	
2.400	7.87	22.77	1.90	SANDY SILT to CLAYEY SILT	9	13		1.8	
2.550	8.37	28.87	3.01	CLAYEY SILT to SILTY CLAY	14	20		1.9	
2.700	8.86	33.98	3.48	CLAYEY SILT to SILTY CLAY	17	23		2.2	
2.850	9.35	25.27	1.57	SANDY SILT to CLAYEY SILT	10	13		2.0	
3.000	9.84	87.48	1.79	SILTY SAND to SANDY SILT	29	38	71		42.5
3.150	10.33	16.66	4.56	CLAY	17	21		1.1	
3.300	10.83	13.81	7.16	CLAY	14	17		.9	
3.450	11.32	187.63	1.89	SAND to SILTY SAND	47	57	91		45.0
3.600	11.81	170.79	1.65	SAND to SILTY SAND	43	51	87		44.5
3.750	12.30	96.31	7.27	*VERY STIFF FINE GRAINED	96	100			
3.900	12.80	38.12	3.81	CLAYEY SILT to SILTY CLAY	19	22		2.2	
4.050	13.29	33.47	4.23	CLAY to SILTY CLAY	22	25		1.9	
4.200	13.78	56.50	3.51	CLAYEY SILT to SILTY CLAY	28	31		3.3	
4.350	14.27	40.37	2.44	SANDY SILT to CLAYEY SILT	16	17		2.6	
4.500	14.76	33.97	2.41	SANDY SILT to CLAYEY SILT	14	14		2.2	
4.650	15.26	25.78	3.19	CLAYEY SILT to SILTY CLAY	13	13		1.7	
4.800	15.75	37.21	3.52	CLAYEY SILT to SILTY CLAY	19	19		2.4	
4.950	16.24	44.35	4.24	CLAY to SILTY CLAY	30	30		2.6	
5.100	16.73	12.58	6.22	CLAY	13	13		.8	
5.250	17.22	42.21	3.75	CLAYEY SILT to SILTY CLAY	21	21		2.4	
5.400	17.72	21.30	2.72	CLAYEY SILT to SILTY CLAY	11	10		1.3	
5.550	18.21	8.52	9.26	CLAY	9	8		.5	
5.700	18.70	77.77	2.13	SILTY SAND to SANDY SILT	26	24	58		38.5
5.850	19.19	45.51	3.55	CLAYEY SILT to SILTY CLAY	23	21		2.6	
6.000	19.69	156.03	.69	SAND	31	29	77		42.0
6.150	20.18	120.30	.74	SAND to SILTY SAND	30	27	70		40.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQDIVALENT FRICTION ANGLE

Interpretations based on ROBERTSON and CAMPANELLA, 1989

SOUNDING : CPT-AL 1-4

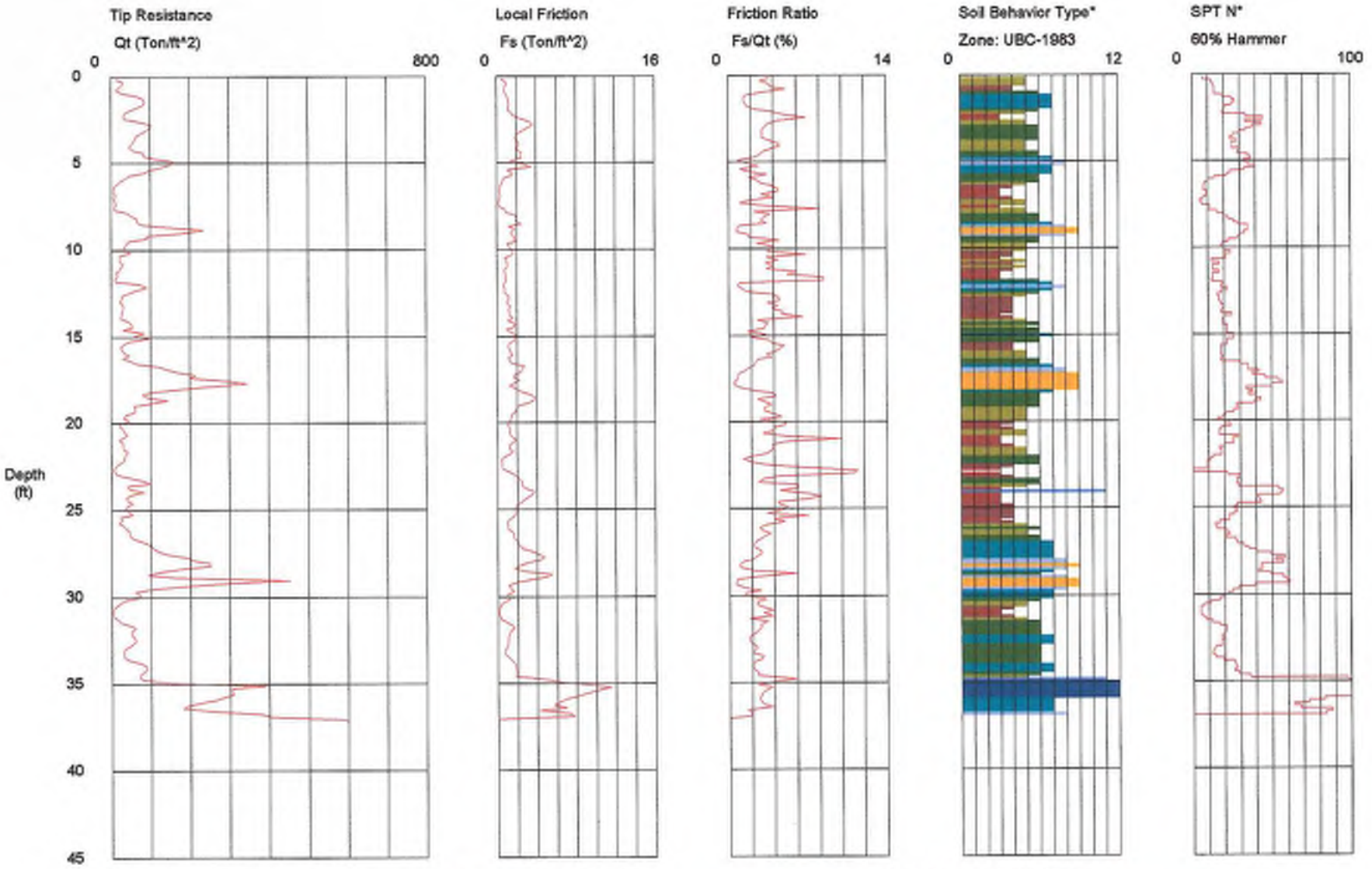
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	65.70	2.03	SILTY SAND to SANDY SILT	22	20	52		37.5
6.450	21.16	23.71	2.82	CLAYEY SILT to SILTY CLAY	12	11		1.5	
6.600	21.65	13.16	4.14	CLAY	13	12		.8	
6.750	22.15	21.65	3.85	CLAY to SILTY CLAY	14	13		1.4	
6.900	22.64	14.27	5.87	CLAY	14	12		.9	
7.050	23.13	12.70	5.16	CLAY	13	11		.8	
7.200	23.62	9.62	10.41	CLAY	10	8		.5	
7.350	24.11	25.95	2.59	CLAYEY SILT to SILTY CLAY	13	11		1.6	
7.500	24.61	14.27	4.74	CLAY	14	12		.9	
7.650	25.10	19.10	*****		0	0			

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 2-1
Latitude: (N) 34°13' 38.2"
Longitude: (W) 118°24' 33.8"

CPT Date/Time: 4/28/2004 7:42
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 2-1 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 7:42:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	29.83	3.62	CLAYEY SILT to SILTY CLAY	15	24		2.0	
.300	.98	28.76	3.09	CLAYEY SILT to SILTY CLAY	14	23		1.9	
.450	1.48	86.73	1.37	SILTY SAND to SANDY SILT	29	46	72		
.600	1.97	49.22	2.39	SANDY SILT to CLAYEY SILT	20	31		3.3	
.750	2.46	34.42	6.84	CLAY	34	55		2.0	
.900	2.95	101.21	3.30	SANDY SILT to CLAYEY SILT	40	63		5.9	
1.050	3.44	66.13	3.04	SANDY SILT to CLAYEY SILT	26	42		3.9	
1.200	3.94	51.38	4.47	CLAY to SILTY CLAY	34	55		3.0	
1.350	4.43	84.64	2.99	SANDY SILT to CLAYEY SILT	34	54		5.0	
1.500	4.92	158.53	.85	SAND	32	51	90		47.5
1.650	5.41	96.95	1.06	SAND to SILTY SAND	24	39	75		45.5
1.800	5.91	37.96	1.81	SANDY SILT to CLAYEY SILT	15	24		3.0	
1.950	6.40	8.50	3.86	CLAY	9	14		.5	
2.100	6.89	14.20	2.94	CLAY to SILTY CLAY	9	15		.9	
2.250	7.38	14.53	1.00	SANDY SILT to CLAYEY SILT	6	9		1.1	
2.400	7.87	40.48	2.30	SANDY SILT to CLAYEY SILT	16	24		2.7	
2.550	8.37	66.03	2.89	SANDY SILT to CLAYEY SILT	26	37		4.4	
2.700	8.86	235.66	.76	SAND	47	65	100		47.0
2.850	9.35	93.11	1.82	SILTY SAND to SANDY SILT	31	41	73		43.0
3.000	9.84	31.70	3.95	CLAY to SILTY CLAY	21	28		1.8	
3.150	10.33	21.52	6.84	CLAY	22	27		1.2	
3.300	10.83	32.10	3.28	CLAYEY SILT to SILTY CLAY	16	20		2.1	
3.450	11.32	12.95	5.95	CLAY	13	16		.8	
3.600	11.81	11.41	8.41	CLAY	11	14		.7	
3.750	12.30	66.00	1.23	SILTY SAND to SANDY SILT	22	26	59		39.5
3.900	12.80	28.14	4.43	CLAY to SILTY CLAY	19	21		1.6	
4.050	13.29	32.16	4.34	CLAY to SILTY CLAY	21	24		1.8	
4.200	13.78	26.68	4.73	CLAY	27	29		1.5	
4.350	14.27	52.49	3.51	CLAYEY SILT to SILTY CLAY	26	28		3.0	
4.500	14.76	84.31	1.69	SILTY SAND to SANDY SILT	28	30	64		39.5
4.650	15.26	46.54	3.56	CLAYEY SILT to SILTY CLAY	23	24		2.7	
4.800	15.75	27.99	4.55	CLAY to SILTY CLAY	19	19		1.6	
4.950	16.24	29.67	3.81	CLAYEY SILT to SILTY CLAY	15	15		1.9	
5.100	16.73	123.62	2.24	SILTY SAND to SANDY SILT	41	41	73		41.5
5.250	17.22	213.42	.87	SAND	43	42	88		44.0
5.400	17.72	344.58	.50	GRAVELLY SAND to SAND	57	56	100		46.0
5.550	18.21	102.96	2.34	SILTY SAND to SANDY SILT	34	33	67		39.5
5.700	18.70	144.17	2.58	SILTY SAND to SANDY SILT	48	45	76		42.0
5.850	19.19	62.22	3.17	SANDY SILT to CLAYEY SILT	25	23		3.6	
6.000	19.69	30.92	4.65	CLAY to SILTY CLAY	21	19		1.7	
6.150	20.18	20.46	5.05	CLAY	20	19		1.3	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALDE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQDIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 2-1

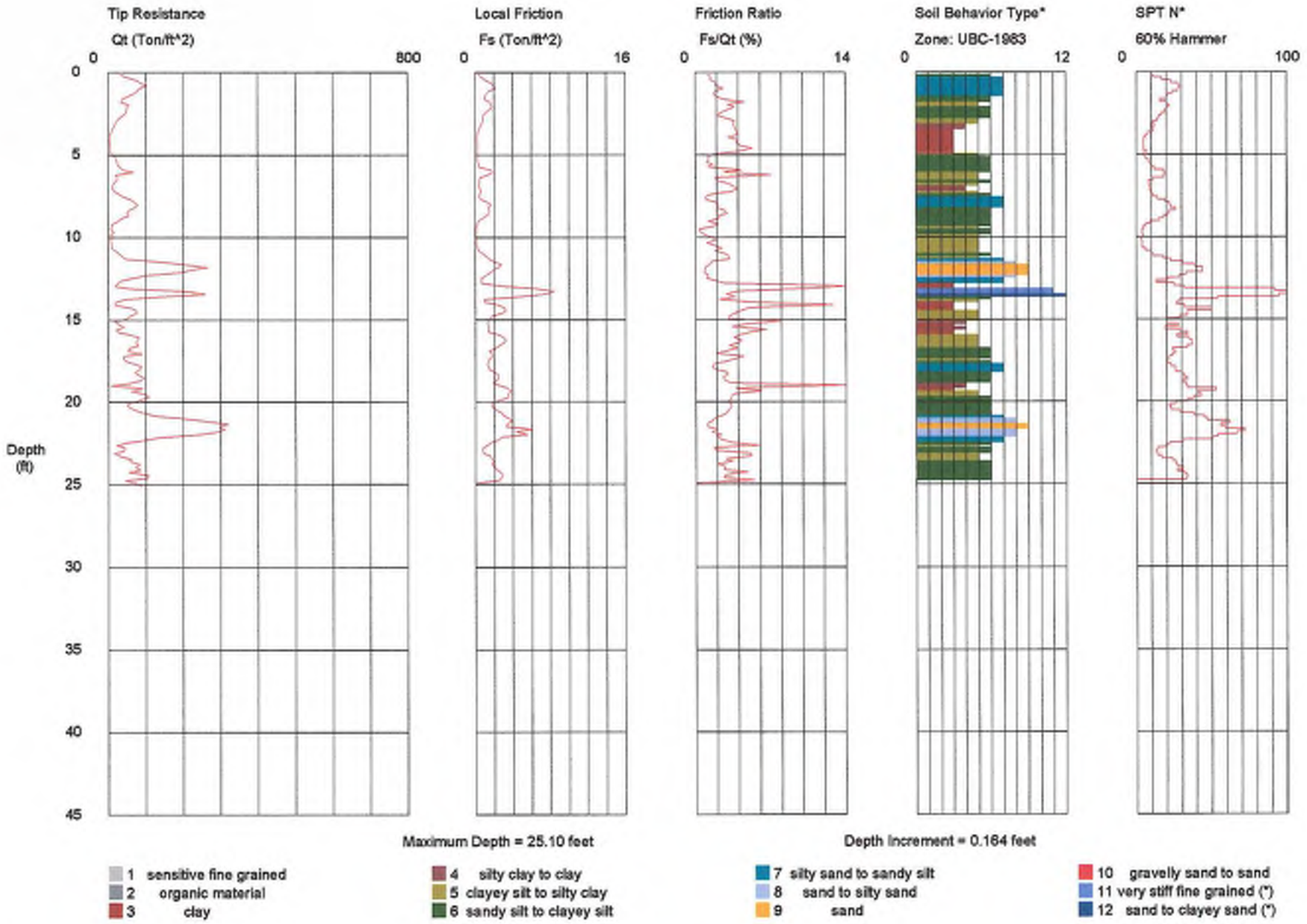
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	42.16	3.02	CLAYEY SILT to SILTY CLAY	21	19		2.7	
6.450	21.16	30.69	4.88	CLAY	31	27		1.7	
6.600	21.65	42.98	3.71	CLAYEY SILT to SILTY CLAY	21	19		2.5	
6.750	22.15	33.43	1.24	SILTY SAND to SANDY SILT	11	10	31		33.0
6.900	22.64	7.24	6.82	CLAY	7	6		.4	
7.050	23.13	46.17	4.40	CLAY to SILTY CLAY	31	26		2.6	
7.200	23.62	40.86	6.07	CLAY	41	34		2.3	
7.350	24.11	50.40	7.07	CLAY	50	42		2.9	
7.500	24.61	54.22	4.31	CLAYEY SILT to SILTY CLAY	27	22		3.1	
7.650	25.10	44.11	4.50	CLAY to SILTY CLAY	29	24		2.5	
7.800	25.59	29.60	3.97	CLAY to SILTY CLAY	20	16		1.9	
7.950	26.08	38.28	2.69	SANDY SILT to CLAYEY SILT	15	12		2.4	
8.100	26.57	50.58	3.16	CLAYEY SILT to SILTY CLAY	25	20		3.3	
8.250	27.07	101.78	2.17	SILTY SAND to SANDY SILT	34	27	61		38.0
8.400	27.56	144.89	2.82	SILTY SAND to SANDY SILT	48	38	70		39.5
8.550	28.05	249.27	1.24	SAND	50	38	86		42.5
8.700	28.54	124.00	2.21	SILTY SAND to SANDY SILT	41	32	65		38.5
8.850	29.04	453.18	.72	GRAVELLY SAND to SAND	76	57	100		45.0
9.000	29.53	103.22	1.30	SAND to SILTY SAND	26	19	60		38.0
9.150	30.02	71.99	1.52	SILTY SAND to SANDY SILT	24	18	49		36.5
9.300	30.51	12.78	2.46	CLAYEY SILT to SILTY CLAY	6	5		.9	
9.450	31.00	3.98	3.04	CLAY	4	3		.2	
9.600	31.50	24.59	3.43	CLAYEY SILT to SILTY CLAY	12	9		1.5	
9.750	31.99	51.63	2.58	SANDY SILT to CLAYEY SILT	21	15		3.3	
9.900	32.48	62.82	1.73	SILTY SAND to SANDY SILT	21	15	44		35.0
10.050	32.97	35.36	2.47	SANDY SILT to CLAYEY SILT	14	10		2.2	
10.200	33.46	32.65	3.03	CLAYEY SILT to SILTY CLAY	16	12		2.0	
10.350	33.96	87.15	2.10	SILTY SAND to SANDY SILT	29	20	53		36.5
10.500	34.45	74.73	2.58	SANDY SILT to CLAYEY SILT	30	21		4.8	
10.650	34.94	154.63	4.11	*VERY STIFF FINE GRAINED	100	100			
10.800	35.43	305.96	3.28	*SAND to CLAYEY SAND	100	100			
10.950	35.93	265.80	2.59	SILTY SAND to SANDY SILT	89	60	84		41.5
11.100	36.42	182.28	3.82	*SAND to CLAYEY SAND	91	62			
11.250	36.91	405.68	1.90	SAND to SILTY SAND	100	68	96		43.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 2-2
Latitude: (N) 34°13' 38.1"
Longitude: (W) 118°24' 33.2"

CPT Date/Time: 4/28/2004 8:17
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 2-2 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 8:17:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	76.64	1.40	SILTY SAND to SANDY SILT	26	41	69		
.300	.98	83.38	2.60	SANDY SILT to CLAYEY SILT	33	53		5.6	
.450	1.48	54.05	1.94	SILTY SAND to SANDY SILT	18	29	59		48.0
.600	1.97	55.48	3.01	SANDY SILT to CLAYEY SILT	22	35		3.7	
.750	2.46	47.10	2.34	SANDY SILT to CLAYEY SILT	19	30		3.1	
.900	2.95	22.78	3.68	CLAY to SILTY CLAY	15	24		1.5	
1.050	3.44	11.03	3.72	CLAY	11	18		.7	
1.200	3.94	5.12	3.07	CLAY	5	8		.4	
1.350	4.43	6.00	4.13	CLAY	6	10		.4	
1.500	4.92	10.12	2.24	CLAYEY SILT to SILTY CLAY	5	8		.8	
1.650	5.41	23.66	1.03	SANDY SILT to CLAYEY SILT	9	15		1.9	
1.800	5.91	39.39	4.24	CLAY to SILTY CLAY	26	42		2.3	
1.950	6.40	26.45	1.87	SANDY SILT to CLAYEY SILT	11	17		2.1	
2.100	6.89	12.04	3.48	CLAY to SILTY CLAY	8	12		.8	
2.250	7.38	29.15	1.59	SANDY SILT to CLAYEY SILT	12	18		2.3	
2.400	7.87	70.19	1.85	SILTY SAND to SANDY SILT	23	34	66		42.5
2.550	8.37	55.16	2.73	SANDY SILT to CLAYEY SILT	22	31		3.6	
2.700	8.86	34.36	2.21	SANDY SILT to CLAYEY SILT	14	19		2.3	
2.850	9.35	9.76	1.66	CLAYEY SILT to SILTY CLAY	5	7		.7	
3.000	9.84	5.09	.94	SENSITIVE FINE GRAINED	3	3		.4	
3.150	10.33	8.58	1.07	CLAYEY SILT to SILTY CLAY	4	5		.8	
3.300	10.83	21.06	1.81	SANDY SILT to CLAYEY SILT	8	10		1.6	
3.450	11.32	46.00	3.21	CLAYEY SILT to SILTY CLAY	23	28		3.0	
3.600	11.81	265.56	.95	SAND	53	63	100		46.0
3.750	12.30	98.72	1.21	SAND to SILTY SAND	25	29	71		42.0
3.900	12.80	24.09	2.73	CLAYEY SILT to SILTY CLAY	12	14		1.6	
4.050	13.29	213.49	3.92	*SAND to CLAYEY SAND	100	100			
4.200	13.78	43.62	2.23	SANDY SILT to CLAYEY SILT	17	19		2.9	
4.350	14.27	60.80	5.02	CLAY to SILTY CLAY	41	44		3.5	
4.500	14.76	57.30	3.18	SANDY SILT to CLAYEY SILT	23	24		3.3	
4.650	15.26	27.46	4.84	CLAY	27	29		1.6	
4.800	15.75	26.68	5.20	CLAY	27	27		1.5	
4.950	16.24	76.21	4.33	CLAYEY SILT to SILTY CLAY	38	39		4.4	
5.100	16.73	56.41	3.92	CLAYEY SILT to SILTY CLAY	28	28		3.3	
5.250	17.22	42.19	4.48	CLAY to SILTY CLAY	28	28		2.4	
5.400	17.72	72.84	1.74	SILTY SAND to SANDY SILT	24	24	57		38.5
5.550	18.21	71.11	2.94	SANDY SILT to CLAYEY SILT	28	27		4.1	
5.700	18.70	86.83	2.68	SANDY SILT to CLAYEY SILT	35	33		5.7	
5.850	19.19	92.43	3.78	CLAYEY SILT to SILTY CLAY	46	43		5.4	
6.000	19.69	109.22	3.30	SANDY SILT to CLAYEY SILT	44	40		6.4	
6.150	20.18	49.86	3.37	CLAYEY SILT to SILTY CLAY	25	23		2.9	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 2-2

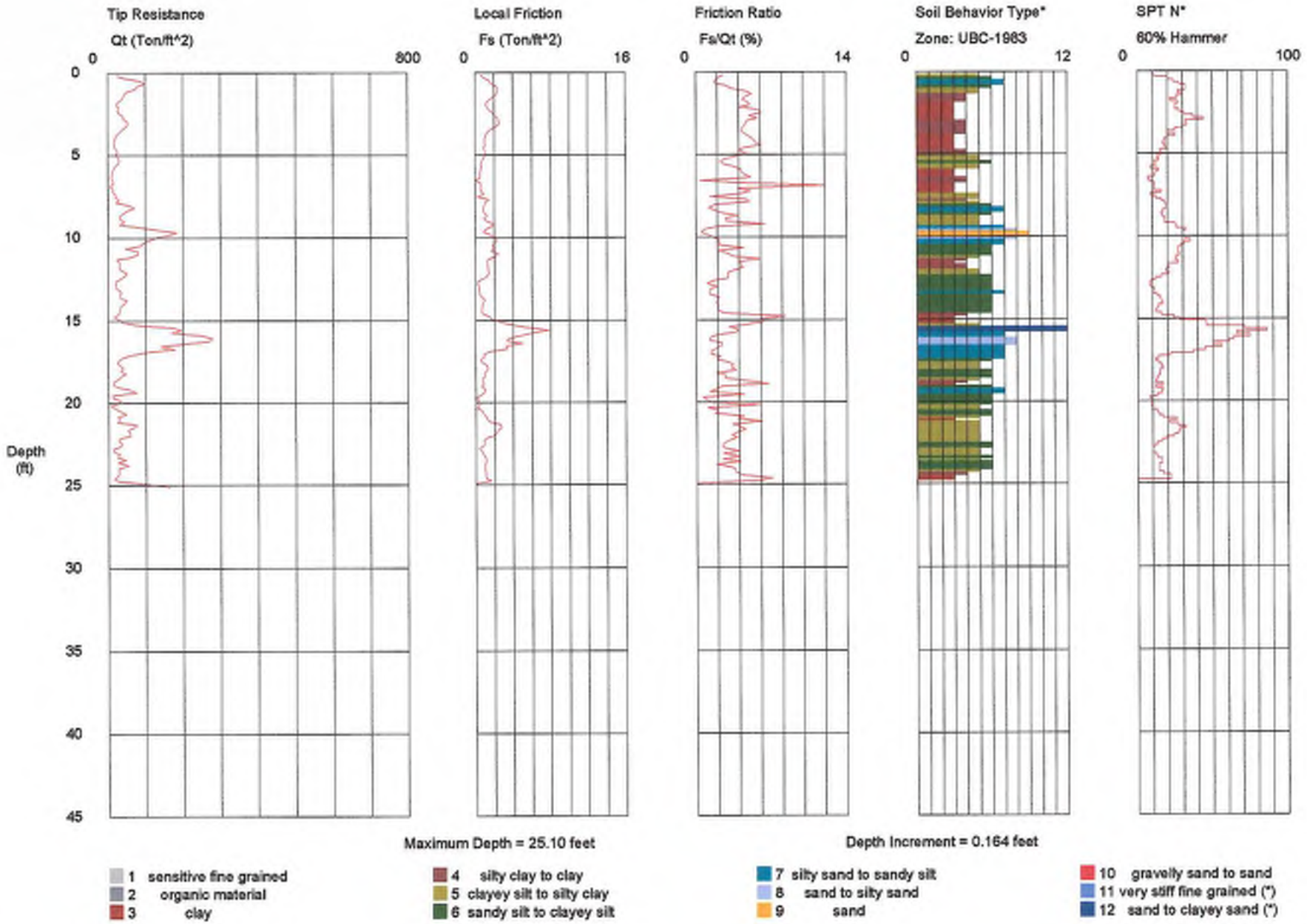
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	96.02	2.92	SANDY SILT to CLAYEY SILT	38	34		5.6	
6.450	21.16	260.31	1.52	SAND to SILTY SAND	65	58	91		44.0
6.600	21.65	311.72	1.96	SAND to SILTY SAND	78	68	96		44.5
6.750	22.15	144.26	1.93	SILTY SAND to SANDY SILT	48	42	73		40.5
6.900	22.64	21.35	5.91	CLAY	21	18		1.2	
7.050	23.13	16.26	5.14	CLAY	16	14		1.0	
7.200	23.62	58.46	3.40	CLAYEY SILT to SILTY CLAY	29	25		3.4	
7.350	24.11	86.79	2.61	SANDY SILT to CLAYEY SILT	35	29		5.7	
7.500	24.61	104.19	2.60	SILTY SAND to SANDY SILT	35	29	63		38.5
7.650	25.10	89.83	*****		0	0			

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBORDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBORDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 2-3
Latitude: (N) 34°13' 38.1"
Longitude: (W) 118°24' 32.9"

CPT Date/Time: 4/28/2004 9:05
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 2-3 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 9:05:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	86.62	1.82	SILTY SAND to SANDY SILT	29	46	72		
.300	.98	73.53	3.29	SANDY SILT to CLAYEY SILT	29	47		4.3	
.450	1.48	42.46	4.66	CLAY to SILTY CLAY	28	45		2.5	
.600	1.97	23.05	5.03	CLAY	23	37		1.3	
.750	2.46	30.25	6.12	CLAY	30	48		1.8	
.900	2.95	52.98	4.79	CLAY to SILTY CLAY	35	56		3.1	
1.050	3.44	39.54	4.29	CLAY to SILTY CLAY	26	42		2.3	
1.200	3.94	20.59	5.04	CLAY	21	33		1.4	
1.350	4.43	17.13	6.05	CLAY	17	27		1.1	
1.500	4.92	23.10	4.66	CLAY	23	37		1.5	
1.650	5.41	29.53	2.29	SANDY SILT to CLAYEY SILT	12	19		1.9	
1.800	5.91	14.30	4.26	CLAY	14	23		.9	
1.950	6.40	10.09	5.12	CLAY	10	16		.6	
2.100	6.89	5.11	11.94	ORGANIC MATERIAL	5	8		.5	
2.250	7.38	22.33	4.16	CLAY to SILTY CLAY	15	22		1.5	
2.400	7.87	22.41	4.99	CLAY	22	33		1.3	
2.550	8.37	51.28	1.69	SILTY SAND to SANDY SILT	17	24	57		40.0
2.700	8.86	33.33	2.72	CLAYEY SILT to SILTY CLAY	17	23		2.2	
2.850	9.35	78.83	2.21	SILTY SAND to SANDY SILT	26	35	68		42.0
3.000	9.84	159.63	1.08	SAND to SILTY SAND	40	52	88		45.0
3.150	10.33	93.06	2.21	SILTY SAND to SANDY SILT	31	39	72		42.5
3.300	10.83	79.70	2.05	SILTY SAND to SANDY SILT	27	33	67		41.5
3.450	11.32	23.54	6.00	CLAY	24	29		1.3	
3.600	11.81	31.33	4.37	CLAY to SILTY CLAY	21	25		1.8	
3.750	12.30	44.11	2.94	SANDY SILT to CLAYEY SILT	18	21		2.9	
3.900	12.80	22.44	1.05	SANDY SILT to CLAYEY SILT	9	10		1.7	
4.050	13.29	35.76	1.26	SILTY SAND to SANDY SILT	12	13	41		37.0
4.200	13.78	50.62	2.06	SANDY SILT to CLAYEY SILT	20	22		3.3	
4.350	14.27	33.94	2.07	SANDY SILT to CLAYEY SILT	14	15		2.2	
4.500	14.76	17.37	8.32	CLAY	17	18		1.1	
4.650	15.26	75.76	4.95	*VERY STIFF FINE GRAINED	76	79			
4.800	15.75	169.51	3.68	*SAND to CLAYEY SAND	85	87			
4.950	16.24	270.56	1.23	SAND	54	55	96		45.0
5.100	16.73	178.87	1.90	SILTY SAND to SANDY SILT	60	60	84		43.0
5.250	17.22	42.34	2.26	SANDY SILT to CLAYEY SILT	17	17		2.8	
5.400	17.72	32.42	3.43	CLAYEY SILT to SILTY CLAY	16	16		2.1	
5.550	18.21	47.54	1.88	SANDY SILT to CLAYEY SILT	19	18		3.1	
5.700	18.70	15.64	4.76	CLAY	16	15		1.0	
5.850	19.19	57.00	1.85	SILTY SAND to SANDY SILT	19	18	49		37.5
6.000	19.69	14.64	.63	SANDY SILT to CLAYEY SILT	6	5		1.3	
6.150	20.18	7.81	5.90	CLAY	8	7		.4	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 2-3

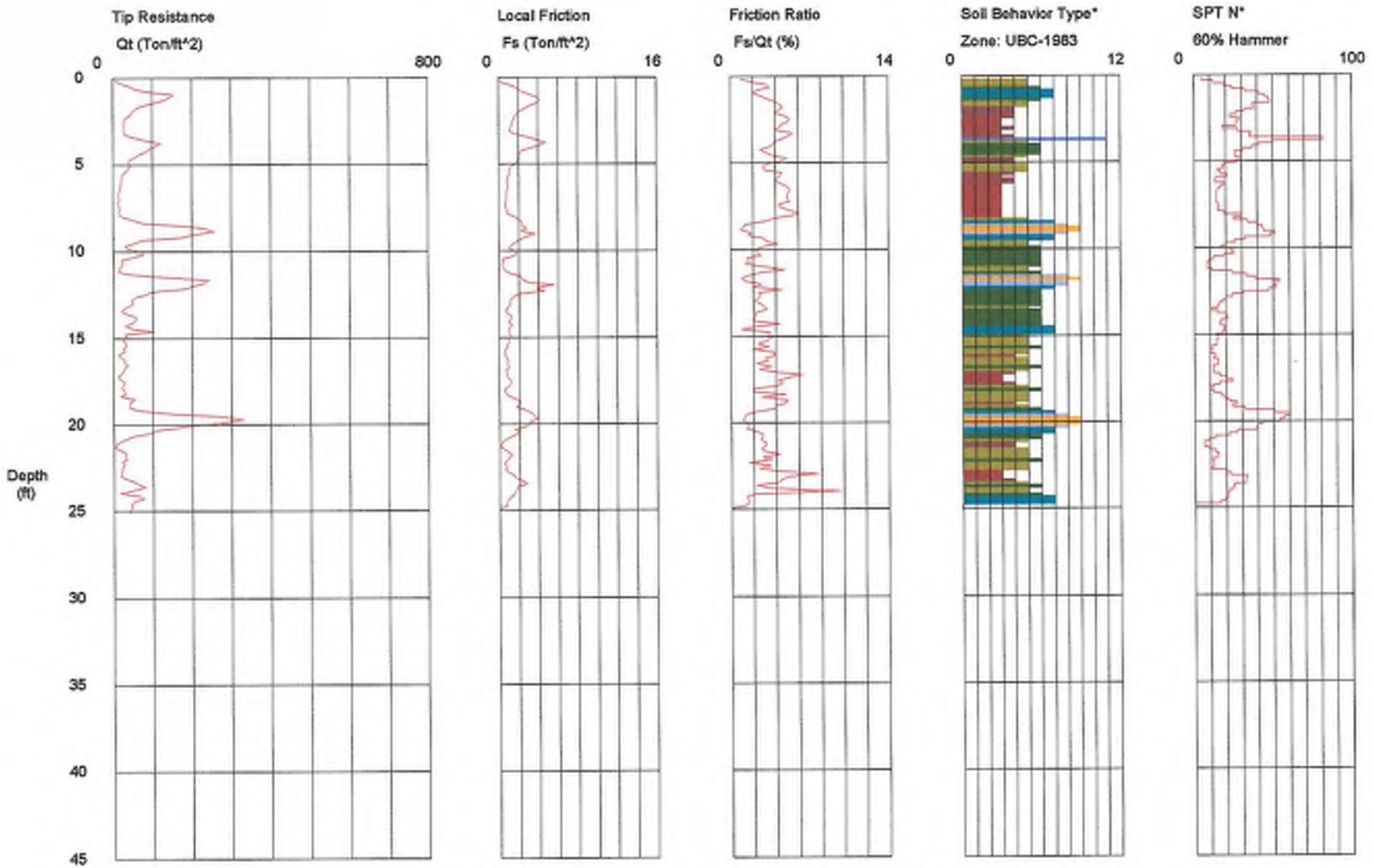
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	49.09	1.75	SILTY SAND to SANDY SILT	16	15	43		36.5
6.450	21.16	24.19	6.15	CLAY	24	21		1.3	
6.600	21.65	52.85	4.57	CLAY to SILTY CLAY	35	31		3.0	
6.750	22.15	31.76	3.79	CLAYEY SILT to SILTY CLAY	16	14		2.0	
6.900	22.64	31.71	2.40	SANDY SILT to CLAYEY SILT	13	11		2.0	
7.050	23.13	32.71	2.52	SANDY SILT to CLAYEY SILT	13	11		2.1	
7.200	23.62	26.30	4.15	CLAY to SILTY CLAY	18	15		1.7	
7.350	24.11	27.81	3.67	CLAYEY SILT to SILTY CLAY	14	12		1.8	
7.500	24.61	15.76	7.07	CLAY	16	13		1.0	
7.650	25.10	164.74	*****		0	0			.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 2-4
Latitude: (N) 34°13' 37.6"
Longitude: (W) 118°24' 32.6"

CPT Date/Time: 4/28/2004 9:30
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 2-4 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 9:30:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	43.76	3.21	CLAYEY SILT to SILTY CLAY	22	35		2.9	
.300	.98	153.74	1.96	SILTY SAND to SANDY SILT	51	82	89		
.450	1.48	102.00	3.88	CLAYEY SILT to SILTY CLAY	51	82		6.0	
.600	1.97	48.24	4.26	CLAYEY SILT to SILTY CLAY	24	39		2.8	
.750	2.46	28.89	5.27	CLAY	29	46		1.7	
.900	2.95	27.40	4.33	CLAY to SILTY CLAY	18	29		1.6	
1.050	3.44	53.56	5.30	CLAY	54	86		3.1	
1.200	3.94	109.00	3.79	CLAYEY SILT to SILTY CLAY	55	87		6.4	
1.350	4.43	66.83	3.18	SANDY SILT to CLAYEY SILT	27	43		3.9	
1.500	4.92	40.08	4.50	CLAY to SILTY CLAY	27	43		2.3	
1.650	5.41	32.07	3.07	CLAYEY SILT to SILTY CLAY	16	26		2.1	
1.800	5.91	21.56	4.05	CLAY to SILTY CLAY	14	23		1.4	
1.950	6.40	17.93	5.06	CLAY	18	29		1.2	
2.100	6.89	15.01	5.04	CLAY	15	23		1.0	
2.250	7.38	15.40	4.36	CLAY	15	23		1.0	
2.400	7.87	14.88	5.98	CLAY	15	22		1.0	
2.550	8.37	78.11	3.06	SANDY SILT to CLAYEY SILT	31	44		4.6	
2.700	8.86	256.86	.89	SAND	51	70	100		47.0
2.850	9.35	74.06	2.92	SANDY SILT to CLAYEY SILT	30	40		4.3	
3.000	9.84	39.81	2.71	SANDY SILT to CLAYEY SILT	16	21		2.6	
3.150	10.33	48.71	2.70	SANDY SILT to CLAYEY SILT	19	25		3.2	
3.300	10.83	22.43	1.28	SANDY SILT to CLAYEY SILT	9	11		1.7	
3.450	11.32	39.41	2.82	SANDY SILT to CLAYEY SILT	16	19		2.6	
3.600	11.81	231.71	1.27	SAND to SILTY SAND	58	69	96		46.0
3.750	12.30	100.86	4.55	*VERY STIFF FINE GRAINED	100	100			
3.900	12.80	47.33	2.42	SANDY SILT to CLAYEY SILT	19	22		3.1	
4.050	13.29	28.34	2.94	CLAYEY SILT to SILTY CLAY	14	16		1.8	
4.200	13.78	56.81	2.22	SANDY SILT to CLAYEY SILT	23	25		3.7	
4.350	14.27	30.59	4.39	CLAY to SILTY CLAY	20	22		1.7	
4.500	14.76	29.59	3.52	CLAYEY SILT to SILTY CLAY	15	16		1.9	
4.650	15.26	31.22	3.17	CLAYEY SILT to SILTY CLAY	16	16		2.0	
4.800	15.75	30.71	1.90	SANDY SILT to CLAYEY SILT	12	13		2.4	
4.950	16.24	28.15	3.00	CLAYEY SILT to SILTY CLAY	14	14		1.8	
5.100	16.73	28.13	3.57	CLAYEY SILT to SILTY CLAY	14	14		1.8	
5.250	17.22	11.99	6.36	CLAY	12	12		.7	
5.400	17.72	25.14	4.60	CLAY	25	24		1.4	
5.550	18.21	31.03	2.08	SANDY SILT to CLAYEY SILT	12	12		2.0	
5.700	18.70	43.31	5.05	CLAY	43	41		2.5	
5.850	19.19	64.98	3.94	CLAYEY SILT to SILTY CLAY	32	30		3.8	
6.000	19.69	330.07	1.20	SAND	66	61	99		45.0
6.150	20.18	165.74	1.60	SAND to SILTY SAND	41	38	79		42.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 2-4

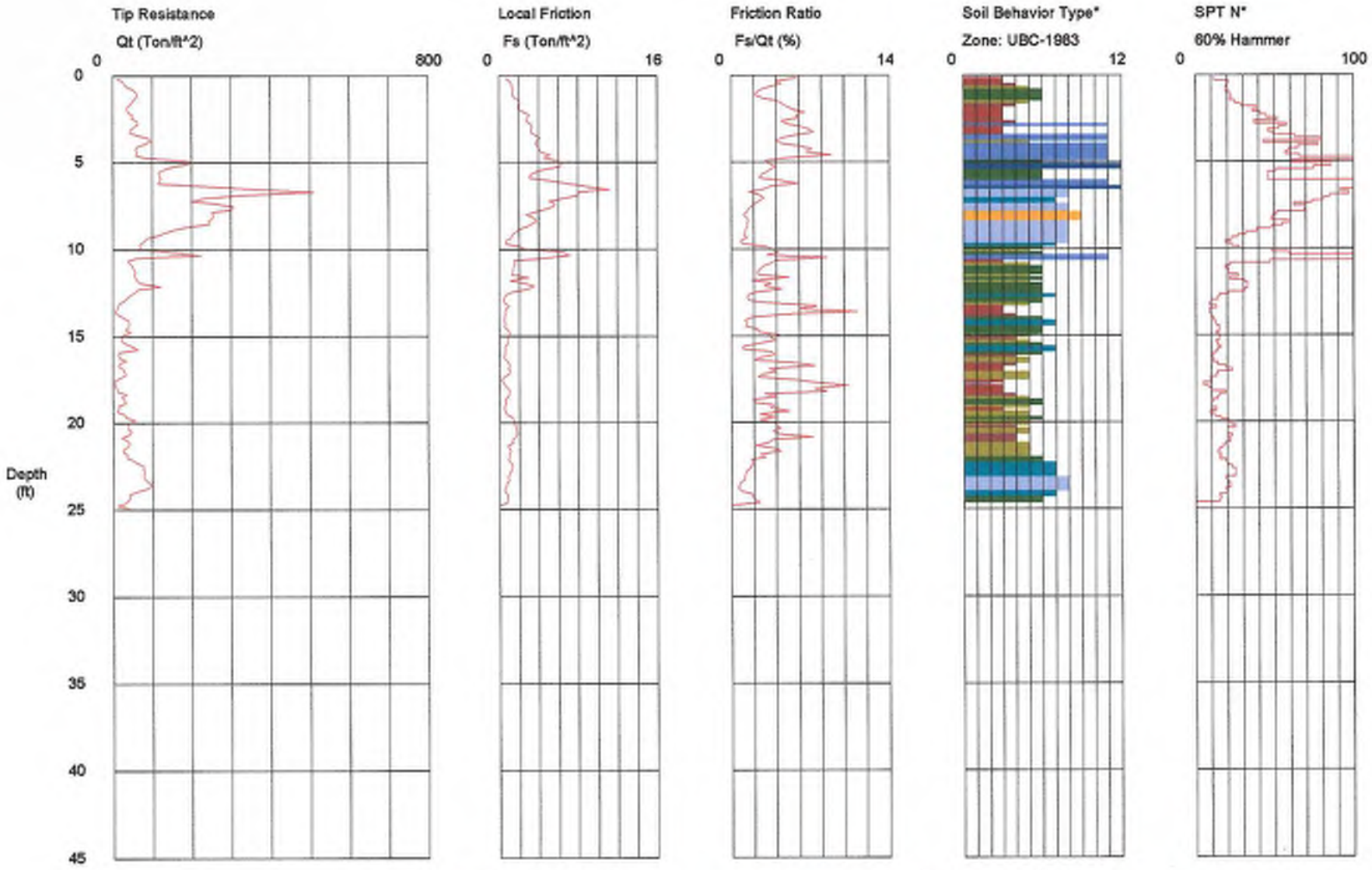
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	51.06	2.86	SANDY SILT to CLAYEY SILT	20	18		3.3	
6.450	21.16	6.49	3.13	CLAY	6	6		.3	
6.600	21.65	32.38	2.89	CLAYEY SILT to SILTY CLAY	16	14		2.1	
6.750	22.15	20.68	3.61	CLAY to SILTY CLAY	14	12		1.3	
6.900	22.64	22.76	2.53	CLAYEY SILT to SILTY CLAY	11	10		1.4	
7.050	23.13	32.50	5.02	CLAY	33	28		1.8	
7.200	23.62	80.92	2.25	SILTY SAND to SANDY SILT	27	23	56		38.0
7.350	24.11	67.48	2.05	SILTY SAND to SANDY SILT	22	19	50		37.0
7.500	24.61	44.50	1.58	SILTY SAND to SANDY SILT	15	12	38		34.5
7.650	25.10	39.12	*****		0	0			.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 3-1
Latitude: 34°13' 41.9"
Longitude: 118°24' 29.0"

CPT Date/Time: 4/27/2004 2:19
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 3-1 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 2:19:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	29.45	4.46	CLAY to SILTY CLAY	20	31		1.7	
.300	.98	59.74	2.26	SANDY SILT to CLAYEY SILT	24	38		4.0	
.450	1.48	51.03	4.06	CLAYEY SILT to SILTY CLAY	26	41		3.0	
.600	1.97	36.80	5.49	CLAY	37	59		2.2	
.750	2.46	47.70	5.93	CLAY	48	76		2.8	
.900	2.95	55.02	6.15	CLAY	55	88		3.2	
1.050	3.44	62.03	5.85	CLAY	62	99		3.6	
1.200	3.94	82.19	4.49	CLAYEY SILT to SILTY CLAY	41	66		4.8	
1.350	4.43	63.39	6.69	CLAY	63	100		3.7	
1.500	4.92	195.75	3.05	SILTY SAND to SANDY SILT	65	100	96		48.5
1.650	5.41	128.45	3.46	SANDY SILT to CLAYEY SILT	51	82		7.5	
1.800	5.91	123.33	2.51	SILTY SAND to SANDY SILT	41	66	82		46.0
1.950	6.40	252.71	3.49	*SAND to CLAYEY SAND	100	100			
2.100	6.89	325.07	2.47	SILTY SAND to SANDY SILT	100	100	100		49.0
2.250	7.38	262.67	2.16	SILTY SAND to SANDY SILT	88	100	100		48.0
2.400	7.87	252.14	1.44	SAND to SILTY SAND	63	92	100		47.5
2.550	8.37	243.31	1.56	SAND to SILTY SAND	61	86	100		47.0
2.700	8.86	157.27	1.27	SAND to SILTY SAND	39	54	89		45.5
2.850	9.35	89.17	1.42	SILTY SAND to SANDY SILT	30	40	72		42.5
3.000	9.84	68.83	3.09	SANDY SILT to CLAYEY SILT	28	36		4.0	
3.150	10.33	224.47	3.20	SILTY SAND to SANDY SILT	75	95	97		46.0
3.300	10.83	46.13	3.53	CLAYEY SILT to SILTY CLAY	23	29		2.7	
3.450	11.32	57.18	2.36	SANDY SILT to CLAYEY SILT	23	28		3.8	
3.600	11.81	61.69	1.78	SILTY SAND to SANDY SILT	21	24	58		39.5
3.750	12.30	63.32	4.46	CLAYEY SILT to SILTY CLAY	32	37		3.7	
3.900	12.80	35.73	1.42	SILTY SAND to SANDY SILT	12	14	41		37.0
4.050	13.29	13.41	7.55	CLAY	13	15		.8	
4.200	13.78	13.87	4.72	CLAY	14	15		.9	
4.350	14.27	42.32	1.41	SILTY SAND to SANDY SILT	14	15	45		37.5
4.500	14.76	45.04	2.35	SANDY SILT to CLAYEY SILT	18	19		2.9	
4.650	15.26	22.03	3.90	CLAY to SILTY CLAY	15	15		1.4	
4.800	15.75	63.53	.98	SILTY SAND to SANDY SILT	21	22	55		38.5
4.950	16.24	17.90	2.47	CLAYEY SILT to SILTY CLAY	9	9		1.1	
5.100	16.73	14.25	7.37	CLAY	14	14		.9	
5.250	17.22	33.49	2.73	CLAYEY SILT to SILTY CLAY	17	16		2.2	
5.400	17.72	6.11	7.41	CLAY	6	6		.3	
5.550	18.21	12.78	8.43	CLAY	13	12		.8	
5.700	18.70	29.00	1.91	SANDY SILT to CLAYEY SILT	12	11		2.2	
5.850	19.19	14.35	3.44	CLAY to SILTY CLAY	10	9		.9	
6.000	19.69	34.54	3.80	CLAYEY SILT to SILTY CLAY	17	16		2.0	
6.150	20.18	40.27	3.99	CLAYEY SILT to SILTY CLAY	20	18		2.3	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 3-1

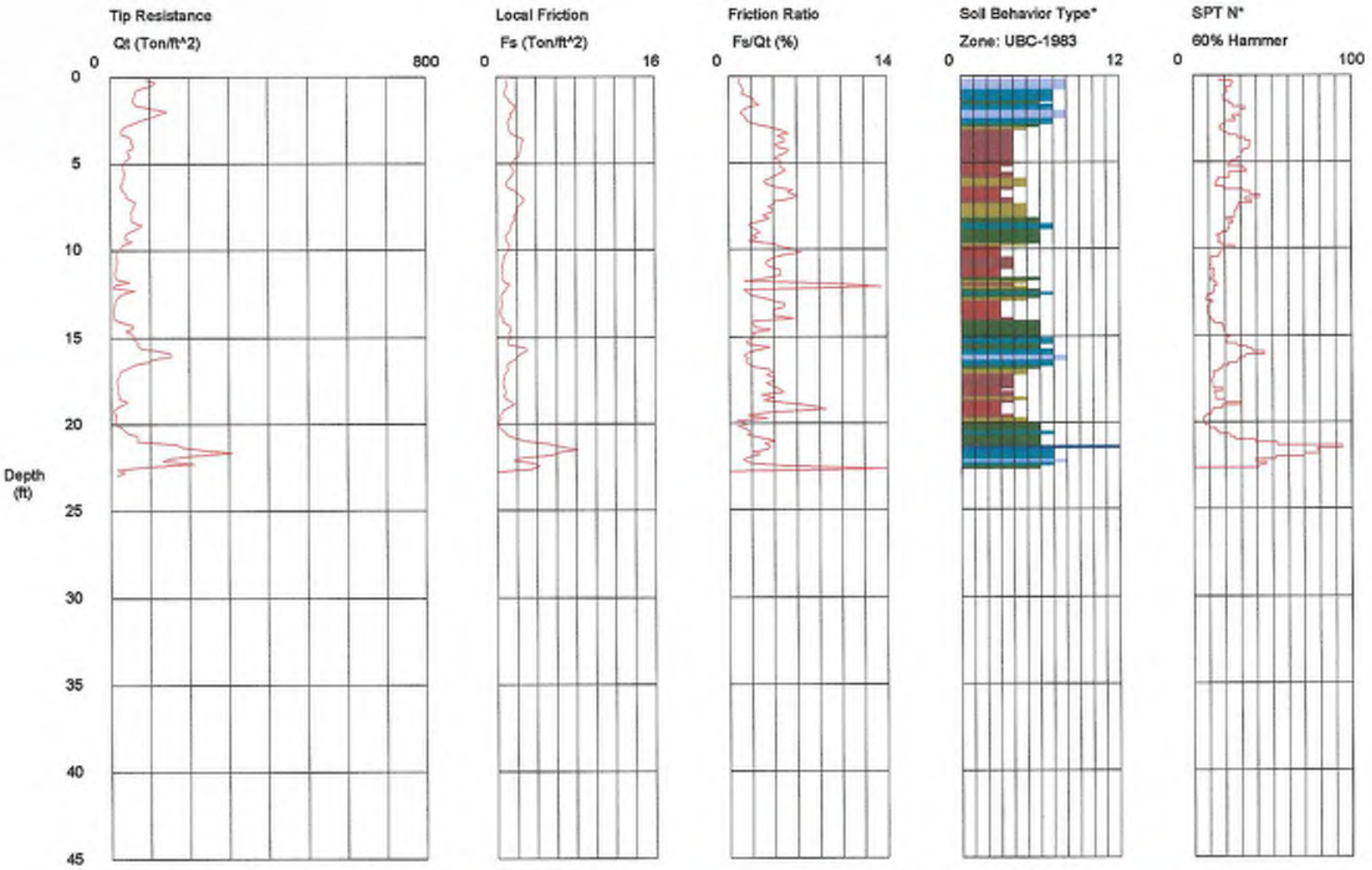
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	40.91	4.27	CLAY to SILTY CLAY	27	24		2.3	
6.450	21.16	42.67	3.30	CLAYEY SILT to SILTY CLAY	21	19		2.8	
6.600	21.65	26.08	4.41	CLAY to SILTY CLAY	17	15		1.5	
6.750	22.15	49.83	1.75	SILTY SAND to SANDY SILT	17	14	43		36.0
6.900	22.64	76.54	1.64	SILTY SAND to SANDY SILT	26	22	55		38.0
7.050	23.13	77.41	1.15	SAND to SILTY SAND	19	16	55		38.0
7.200	23.62	97.61	.71	SAND to SILTY SAND	24	20	61		38.5
7.350	24.11	41.35	1.93	SANDY SILT to CLAYEY SILT	17	14		2.7	
7.500	24.61	30.56	2.50	SANDY SILT to CLAYEY SILT	12	10		1.9	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 3-2
Latitude: (N) 34°13' 41.9"
Longitude: (W) 118°24' 28.2"

CPT Date/Time: 4/27/2004 3:02
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 3-2 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 3:02:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	105.50	1.06	SAND to SILTY SAND	26	42	78		
.300	.98	63.38	1.16	SILTY SAND to SANDY SILT	21	34	63		
.450	1.48	60.42	2.22	SANDY SILT to CLAYEY SILT	24	39		4.0	
.600	1.97	144.58	1.19	SAND to SILTY SAND	36	58	87		
.750	2.46	82.28	1.53	SILTY SAND to SANDY SILT	27	44	71		48.0
.900	2.95	32.19	3.75	CLAYEY SILT to SILTY CLAY	16	26		2.1	
1.050	3.44	47.99	4.35	CLAY to SILTY CLAY	32	51		2.8	
1.200	3.94	60.33	4.12	CLAYEY SILT to SILTY CLAY	30	48		3.5	
1.350	4.43	45.74	5.09	CLAY	46	73		2.7	
1.500	4.92	36.06	4.63	CLAY to SILTY CLAY	24	38		2.1	
1.650	5.41	35.34	5.02	CLAY	35	57		2.1	
1.800	5.91	34.23	3.63	CLAYEY SILT to SILTY CLAY	17	27		2.3	
1.950	6.40	28.20	4.21	CLAY to SILTY CLAY	19	30		1.6	
2.100	6.89	39.69	6.11	CLAY	40	62		2.3	
2.250	7.38	59.66	4.01	CLAYEY SILT to SILTY CLAY	30	45		3.5	
2.400	7.87	52.92	3.73	CLAYEY SILT to SILTY CLAY	26	38		3.1	
2.550	8.37	58.38	2.80	SANDY SILT to CLAYEY SILT	23	33		3.9	
2.700	8.86	57.48	2.41	SANDY SILT to CLAYEY SILT	23	32		3.8	
2.850	9.35	37.40	2.53	SANDY SILT to CLAYEY SILT	15	20		2.5	
3.000	9.84	27.38	4.59	CLAY	27	36		1.6	
3.150	10.33	16.29	4.76	CLAY	16	21		1.0	
3.300	10.83	17.20	3.28	CLAY to SILTY CLAY	11	14		1.1	
3.450	11.32	11.75	4.52	CLAY	12	14		.7	
3.600	11.81	50.43	1.39	SILTY SAND to SANDY SILT	17	20	52		38.5
3.750	12.30	62.59	1.34	SILTY SAND to SANDY SILT	21	24	58		39.0
3.900	12.80	15.18	3.18	CLAY to SILTY CLAY	10	12		1.0	
4.050	13.29	9.48	4.92	CLAY	9	11		.6	
4.200	13.78	9.76	3.84	CLAY	10	11		.6	
4.350	14.27	59.06	2.06	SILTY SAND to SANDY SILT	20	21	54		38.5
4.500	14.76	56.66	2.09	SANDY SILT to CLAYEY SILT	23	24		3.7	
4.650	15.26	69.84	1.55	SILTY SAND to SANDY SILT	23	24	58		39.0
4.800	15.75	117.47	2.60	SILTY SAND to SANDY SILT	39	40	72		41.5
4.950	16.24	107.12	1.75	SILTY SAND to SANDY SILT	36	36	69		40.5
5.100	16.73	47.81	2.06	SANDY SILT to CLAYEY SILT	19	19		3.1	
5.250	17.22	23.04	3.32	CLAYEY SILT to SILTY CLAY	12	11		1.5	
5.400	17.72	18.61	3.28	CLAYEY SILT to SILTY CLAY	9	9		1.2	
5.550	18.21	18.71	4.83	CLAY	19	18		1.2	
5.700	18.70	43.80	2.99	SANDY SILT to CLAYEY SILT	18	17		2.8	
5.850	19.19	7.28	8.59	CLAY	7	7		.4	
6.000	19.69	12.10	3.37	CLAY to SILTY CLAY	8	7		.7	
6.150	20.18	27.39	.78	SILTY SAND to SANDY SILT	9	8	27		32.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 3-2

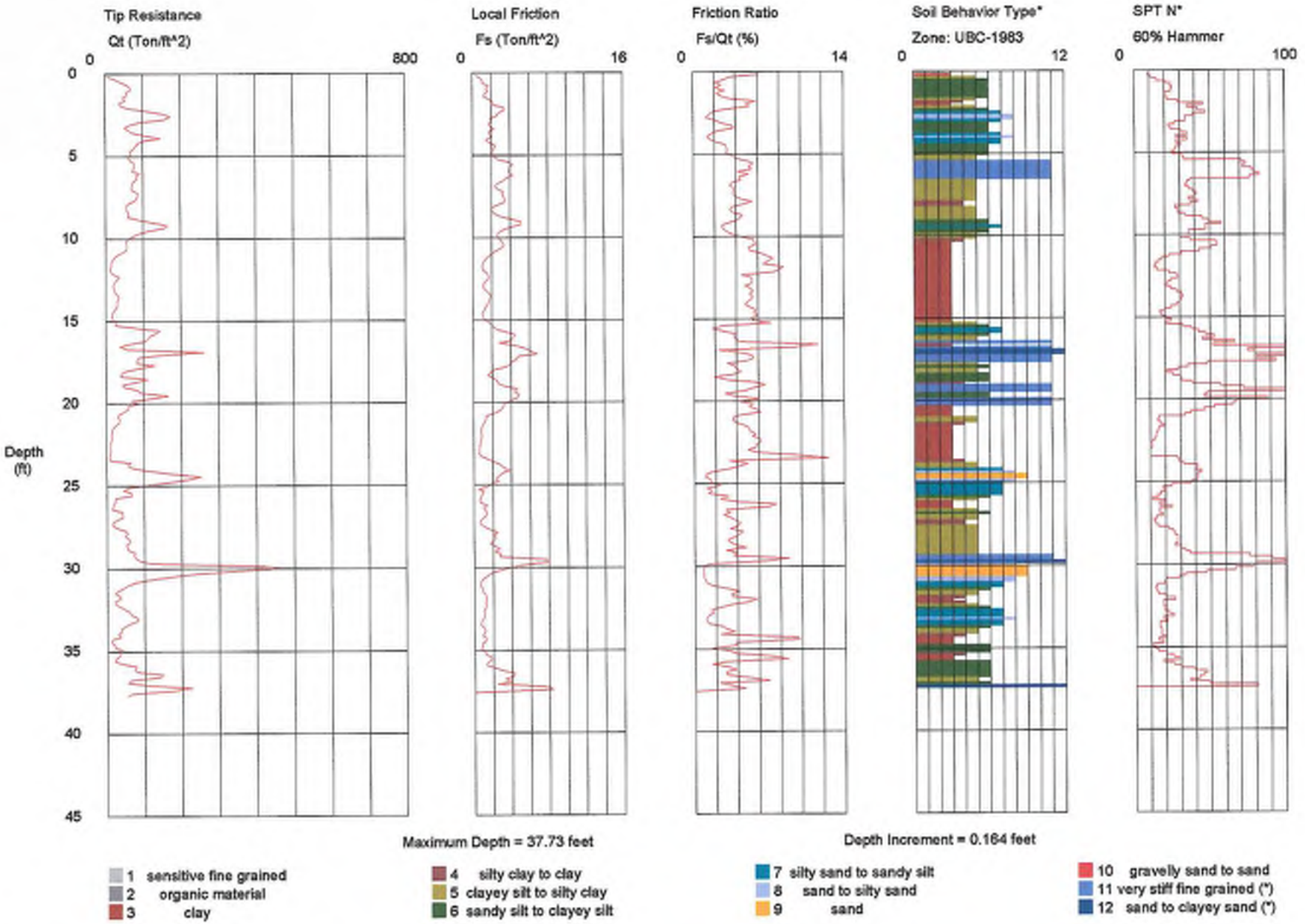
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	67.40	1.60	SILTY SAND to SANDY SILT	22	20	53		36.0
6.450	21.16	167.08	3.13	SANDY SILT to CLAYEY SILT	67	59		9.8	
6.600	21.65	307.02	2.04	SAND to SILTY SAND	77	67	95		44.5
6.750	22.15	131.58	1.26	SAND to SILTY SAND	33	29	71		40.0
6.900	22.64	17.06	19.53	CLAY	17	15		1.0	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 3-3
Latitude: (N) 34°13' 41.7"
Longitude: (W) 118°24' 27.9"

CPT Date/Time: 4/27/2004 3:28
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 3-3 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 3:28:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	38.81	2.86	SANDY SILT to CLAYEY SILT	16	25		2.6	
.300	.98	68.86	2.11	SILTY SAND to SANDY SILT	23	37	66		
.450	1.48	47.40	2.54	SANDY SILT to CLAYEY SILT	19	30		3.2	
.600	1.97	43.47	4.96	CLAY	43	70		2.6	
.750	2.46	155.44	1.81	SILTY SAND to SANDY SILT	52	83	89		
.900	2.95	95.90	2.11	SILTY SAND to SANDY SILT	32	51	75		47.5
1.050	3.44	61.91	3.75	CLAYEY SILT to SILTY CLAY	31	50		3.6	
1.200	3.94	148.32	1.32	SAND to SILTY SAND	37	59	88		48.0
1.350	4.43	79.75	3.07	SANDY SILT to CLAYEY SILT	32	51		4.7	
1.500	4.92	68.35	3.07	SANDY SILT to CLAYEY SILT	27	44		4.0	
1.650	5.41	77.06	5.15	*VERY STIFF FINE GRAINED	77	100			
1.800	5.91	72.68	5.43	*VERY STIFF FINE GRAINED	73	100			
1.950	6.40	83.67	4.27	CLAYEY SILT to SILTY CLAY	42	67		4.9	
2.100	6.89	70.04	3.41	SANDY SILT to CLAYEY SILT	28	44		4.1	
2.250	7.38	86.71	3.66	CLAYEY SILT to SILTY CLAY	43	65		5.1	
2.400	7.87	61.82	5.47	CLAY	62	90		3.6	
2.550	8.37	60.69	3.44	CLAYEY SILT to SILTY CLAY	30	43		3.5	
2.700	8.86	90.31	4.38	CLAYEY SILT to SILTY CLAY	45	62		5.3	
2.850	9.35	157.74	2.64	SILTY SAND to SANDY SILT	53	70	88		45.0
3.000	9.84	71.88	3.61	CLAYEY SILT to SILTY CLAY	36	47		4.2	
3.150	10.33	57.27	5.68	CLAY	57	73		3.3	
3.300	10.83	45.21	5.28	CLAY	45	56		2.6	
3.450	11.32	18.05	7.43	CLAY	18	22		1.2	
3.600	11.81	12.20	8.38	CLAY	12	14		.8	
3.750	12.30	37.09	4.49	CLAY to SILTY CLAY	25	29		2.1	
3.900	12.80	20.78	5.47	CLAY	21	24		1.2	
4.050	13.29	27.82	5.56	CLAY	28	31		1.6	
4.200	13.78	31.21	5.43	CLAY	31	34		1.8	
4.350	14.27	24.56	5.29	CLAY	25	27		1.4	
4.500	14.76	17.40	6.06	CLAY	17	18		1.1	
4.650	15.26	26.39	7.22	CLAY	26	28		1.5	
4.800	15.75	136.41	2.60	SILTY SAND to SANDY SILT	45	47	77		42.0
4.950	16.24	102.48	3.98	CLAYEY SILT to SILTY CLAY	51	52		6.0	
5.100	16.73	58.97	9.32	CLAY	59	59		3.4	
5.250	17.22	88.57	5.40	*VERY STIFF FINE GRAINED	89	87			
5.400	17.72	130.60	3.09	SANDY SILT to CLAYEY SILT	52	51		7.6	
5.550	18.21	40.99	4.40	CLAY to SILTY CLAY	27	26		2.3	
5.700	18.70	82.54	3.08	SANDY SILT to CLAYEY SILT	33	31		4.8	
5.850	19.19	85.35	5.53	*VERY STIFF FINE GRAINED	85	80			
6.000	19.69	122.05	3.90	CLAYEY SILT to SILTY CLAY	61	56		7.1	
6.150	20.18	58.29	5.49	CLAY	58	53		3.4	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

SOUNDING : CPT-AL 3-3

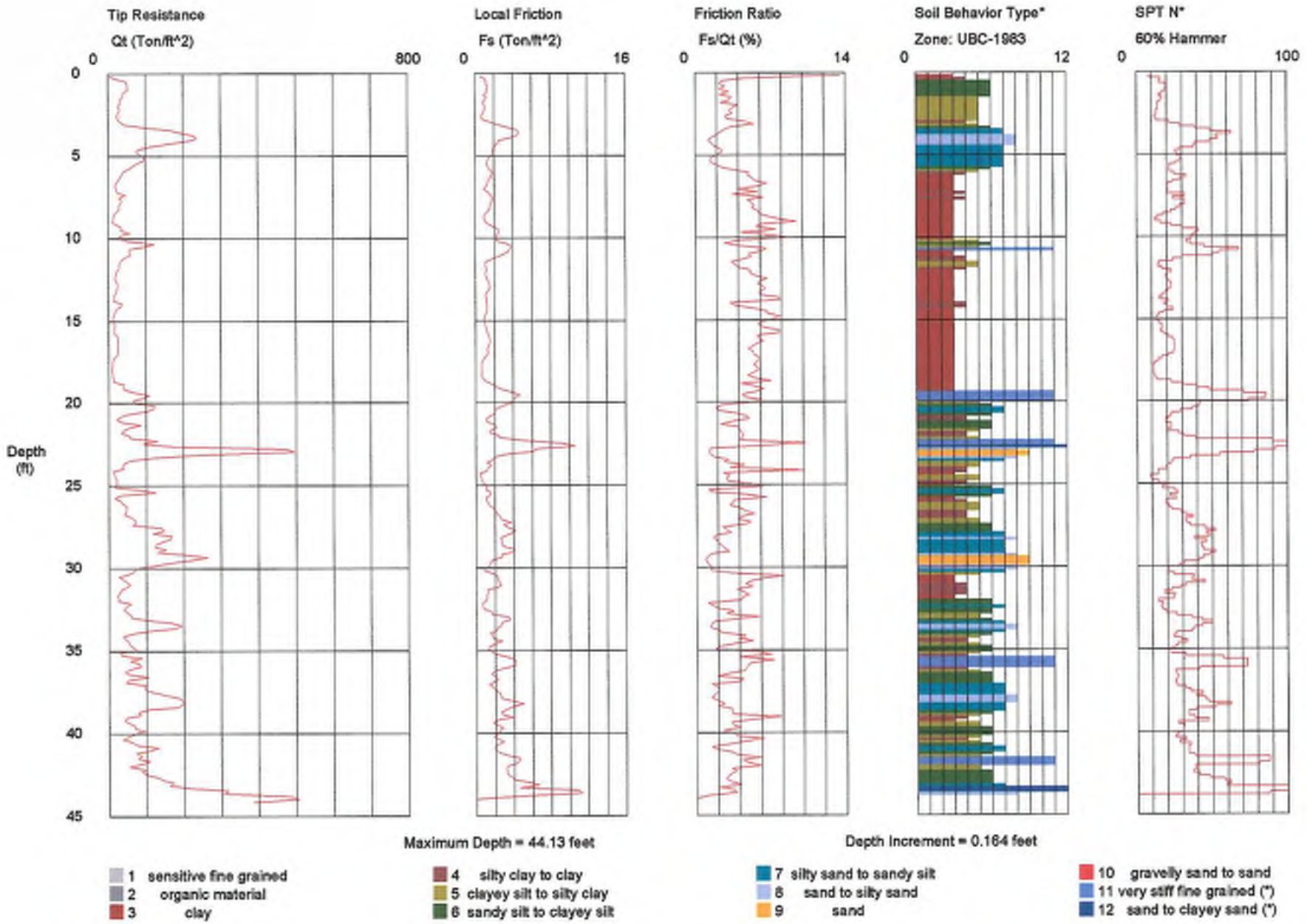
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	35.12	6.23	CLAY	35	32		2.0	
6.450	21.16	34.51	3.57	CLAYEY SILT to SILTY CLAY	17	15		2.2	
6.600	21.65	16.05	5.11	CLAY	16	14		1.0	
6.750	22.15	15.35	5.44	CLAY	15	13		.9	
6.900	22.64	10.91	5.72	CLAY	11	9		.6	
7.050	23.13	9.33	5.91	CLAY	9	8		.5	
7.200	23.62	65.55	3.25	SANDY SILT to CLAYEY SILT	26	22		3.8	
7.350	24.11	127.06	3.06	SANDY SILT to CLAYEY SILT	51	42		7.4	
7.500	24.61	221.62	1.08	SAND	44	36	84		42.5
7.650	25.10	60.76	2.45	SANDY SILT to CLAYEY SILT	24	20		4.0	
7.800	25.59	68.02	1.27	SILTY SAND to SANDY SILT	23	18	50		37.0
7.950	26.08	18.39	3.94	CLAY to SILTY CLAY	12	10		1.1	
8.100	26.57	43.36	2.91	SANDY SILT to CLAYEY SILT	17	14		2.8	
8.250	27.07	25.55	3.41	CLAYEY SILT to SILTY CLAY	13	10		1.6	
8.400	27.56	28.96	4.08	CLAY to SILTY CLAY	19	15		1.6	
8.550	28.05	48.68	4.22	CLAYEY SILT to SILTY CLAY	24	19		2.8	
8.700	28.54	52.37	3.32	CLAYEY SILT to SILTY CLAY	26	20		3.0	
8.850	29.04	75.91	2.94	SANDY SILT to CLAYEY SILT	30	23		4.4	
9.000	29.53	88.19	8.78	*VERY STIFF FINE GRAINED	88	66			
9.150	30.02	472.93	.84	SAND	95	70	100		45.0
9.300	30.51	167.35	.83	SAND	33	25	73		39.5
9.450	31.00	56.00	1.05	SILTY SAND to SANDY SILT	19	14	41		34.5
9.600	31.50	22.48	4.14	CLAY to SILTY CLAY	15	11		1.4	
9.750	31.99	21.84	5.82	CLAY	22	16		1.2	
9.900	32.48	49.88	2.35	SANDY SILT to CLAYEY SILT	20	14		3.2	
10.050	32.97	83.27	1.29	SILTY SAND to SANDY SILT	28	20	52		36.5
10.200	33.46	50.48	1.24	SILTY SAND to SANDY SILT	17	12	37		33.0
10.350	33.96	29.14	3.72	CLAYEY SILT to SILTY CLAY	15	10		1.8	
10.500	34.45	12.55	9.74	CLAY	13	9		.7	
10.650	34.94	45.00	1.54	SILTY SAND to SANDY SILT	15	10	33		31.5
10.800	35.43	24.97	7.16	CLAY	25	17		1.3	
10.950	35.93	79.39	1.61	SILTY SAND to SANDY SILT	26	18	49		36.0
11.100	36.42	149.45	2.89	SILTY SAND to SANDY SILT	50	34	67		38.5
11.250	36.91	55.81	6.93	CLAY	56	38		3.2	
11.400	37.40	178.58	4.67	*VERY STIFF FINE GRAINED	100	100			

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 3-4
Latitude: (N) 34°13' 41.6"
Longitude: (W) 118°24' 27.3"

CPT Date/Time: 4/27/2004 4:25
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 3-4 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/27/2004 4:25:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	48.25	2.47	SANDY SILT to CLAYEY SILT	19	31		3.2	
.300	.98	54.60	2.24	SANDY SILT to CLAYEY SILT	22	35		3.6	
.450	1.48	36.91	3.37	CLAYEY SILT to SILTY CLAY	18	30		2.5	
.600	1.97	26.34	3.93	CLAY to SILTY CLAY	18	28		1.7	
.750	2.46	24.61	3.45	CLAYEY SILT to SILTY CLAY	12	20		1.6	
.900	2.95	33.79	4.53	CLAY to SILTY CLAY	23	36		2.0	
1.050	3.44	162.68	2.72	SILTY SAND to SANDY SILT	54	87	90		49.0
1.200	3.94	237.04	1.51	SAND to SILTY SAND	59	95	100		
1.350	4.43	114.16	1.76	SILTY SAND to SANDY SILT	38	61	80		46.5
1.500	4.92	85.63	2.21	SILTY SAND to SANDY SILT	29	46	72		45.5
1.650	5.41	78.52	1.46	SILTY SAND to SANDY SILT	26	42	69		44.5
1.800	5.91	44.82	3.73	CLAYEY SILT to SILTY CLAY	22	36		2.6	
1.950	6.40	29.43	5.31	CLAY	29	47		1.7	
2.100	6.89	19.83	5.90	CLAY	20	31		1.1	
2.250	7.38	46.34	3.47	CLAYEY SILT to SILTY CLAY	23	35		2.7	
2.400	7.87	33.50	5.18	CLAY	34	49		1.9	
2.550	8.37	23.39	5.82	CLAY	23	33		1.3	
2.700	8.86	12.73	7.53	CLAY	13	17		.8	
2.850	9.35	36.33	5.65	CLAY	36	49		2.1	
3.000	9.84	31.06	7.16	CLAY	31	40		1.8	
3.150	10.33	123.55	2.70	SILTY SAND to SANDY SILT	41	52	80		43.5
3.300	10.83	56.65	6.18	CLAY	57	70		3.3	
3.450	11.32	36.11	4.47	CLAY to SILTY CLAY	24	29		2.1	
3.600	11.81	28.10	4.09	CLAY to SILTY CLAY	19	22		1.8	
3.750	12.30	19.97	5.56	CLAY	20	23		1.1	
3.900	12.80	26.17	5.78	CLAY	26	30		1.5	
4.050	13.29	20.21	5.96	CLAY	20	23		1.1	
4.200	13.78	14.74	7.88	CLAY	15	16		.9	
4.350	14.27	22.73	5.38	CLAY	23	25		1.3	
4.500	14.76	12.67	7.85	CLAY	13	13		.8	
4.650	15.26	18.41	5.84	CLAY	18	19		1.2	
4.800	15.75	17.02	7.75	CLAY	17	18		1.1	
4.950	16.24	25.83	6.31	CLAY	26	26		1.5	
5.100	16.73	26.17	4.89	CLAY	26	26		1.5	
5.250	17.22	17.10	5.80	CLAY	17	17		1.1	
5.400	17.72	11.79	5.36	CLAY	12	11		.7	
5.550	18.21	11.90	5.29	CLAY	12	11		.7	
5.700	18.70	15.00	6.97	CLAY	15	14		.9	
5.850	19.19	44.11	6.30	CLAY	44	41		2.5	
6.000	19.69	92.85	4.54	*VERY STIFF FINE GRAINED	93	85			
6.150	20.18	124.07	2.50	SILTY SAND to SANDY SILT	41	38	70		40.0

*1NDICATES OVERCONSOL1DATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMAL1ZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMAL1ZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMAL1ZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMAL1ZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 3-4

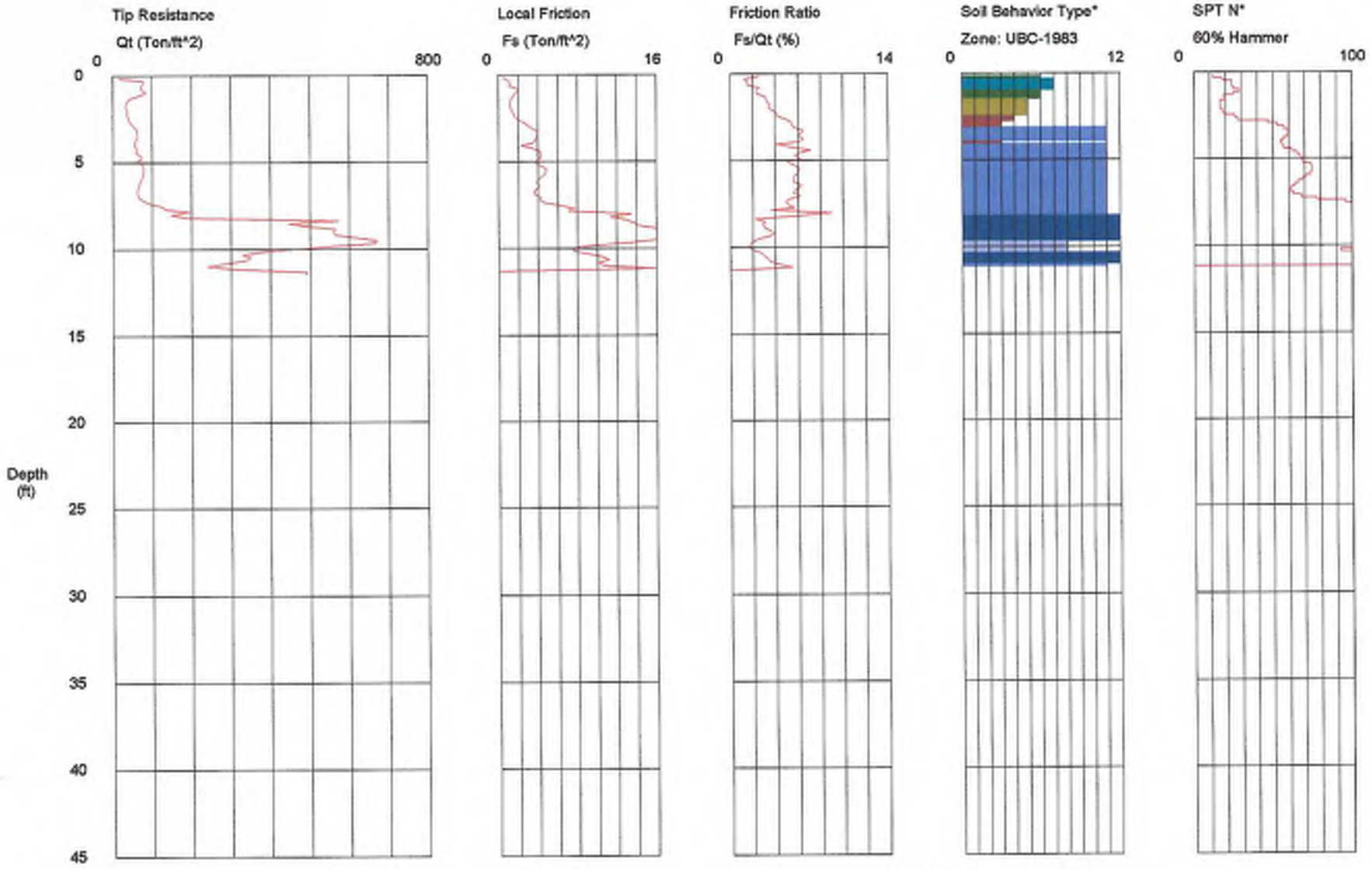
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	51.99	3.78	CLAYEY SILT to SILTY CLAY	26	23		3.0	
6.450	21.16	36.14	3.40	CLAYEY SILT to SILTY CLAY	18	16		2.3	
6.600	21.65	41.20	4.05	CLAYEY SILT to SILTY CLAY	21	18		2.3	
6.750	22.15	56.91	4.31	CLAYEY SILT to SILTY CLAY	28	25		3.3	
6.900	22.64	176.82	6.00	*VERY STIFF FINE GRAINED	100	100			
7.050	23.13	248.99	1.29	SAND	50	42	88		43.0
7.200	23.62	43.66	2.64	SANDY SILT to CLAYEY SILT	17	15		2.8	
7.350	24.11	11.59	10.09	CLAY	12	10		.7	
7.500	24.61	21.80	2.82	CLAYEY SILT to SILTY CLAY	11	9		1.4	
7.650	25.10	18.46	6.21	CLAY	18	15		1.0	
7.800	25.59	32.70	4.62	CLAY to SILTY CLAY	22	18		1.8	
7.950	26.08	39.11	3.38	CLAYEY SILT to SILTY CLAY	20	16		2.5	
8.100	26.57	46.86	4.55	CLAY to SILTY CLAY	31	25		2.7	
8.250	27.07	69.11	3.89	CLAYEY SILT to SILTY CLAY	35	27		4.0	
8.400	27.56	139.75	2.42	SILTY SAND to SANDY SILT	47	36	69		39.0
8.550	28.05	168.43	1.90	SILTY SAND to SANDY SILT	56	43	74		40.0
8.700	28.54	125.48	2.13	SILTY SAND to SANDY SILT	42	32	66		38.5
8.850	29.04	130.23	3.07	SANDY SILT to CLAYEY SILT	52	39		7.6	
9.000	29.53	216.84	.80	SAND	43	33	81		41.5
9.150	30.02	75.04	1.39	SILTY SAND to SANDY SILT	25	19	50		36.5
9.300	30.51	27.74	8.11	CLAY	28	21		1.7	
9.450	31.00	58.05	4.56	CLAY to SILTY CLAY	39	28		3.3	
9.600	31.50	29.86	4.33	CLAY to SILTY CLAY	20	14		1.6	
9.750	31.99	25.62	4.17	CLAY to SILTY CLAY	17	12		1.6	
9.900	32.48	39.16	2.06	SANDY SILT to CLAYEY SILT	16	11		2.5	
10.050	32.97	59.80	5.82	CLAY	60	43		3.4	
10.200	33.46	195.18	1.37	SAND to SILTY SAND	49	34	76		39.5
10.350	33.96	64.33	2.29	SANDY SILT to CLAYEY SILT	26	18		4.2	
10.500	34.45	52.66	5.26	CLAY	53	37		3.0	
10.650	34.94	75.47	1.76	SILTY SAND to SANDY SILT	25	17	48		36.0
10.800	35.43	87.56	4.02	CLAYEY SILT to SILTY CLAY	44	30		5.0	
10.950	35.93	86.25	4.80	*VERY STIFF FINE GRAINED	86	59			
11.100	36.42	52.14	3.11	SANDY SILT to CLAYEY SILT	21	14		3.3	
11.250	36.91	45.99	3.97	CLAYEY SILT to SILTY CLAY	23	15		2.6	
11.400	37.40	102.44	2.04	SILTY SAND to SANDY SILT	34	23	56		37.0
11.550	37.89	192.46	1.37	SAND to SILTY SAND	48	32	74		39.0
11.700	38.39	185.00	2.04	SILTY SAND to SANDY SILT	62	41	73		39.0
11.850	38.88	85.47	3.34	SANDY SILT to CLAYEY SILT	34	22		4.9	
12.000	39.37	54.80	3.24	CLAYEY SILT to SILTY CLAY	27	18		3.1	
12.150	39.86	96.54	2.51	SILTY SAND to SANDY SILT	32	21	53		36.5
12.300	40.35	36.84	6.26	CLAY	37	24		2.0	
12.450	40.85	133.69	1.44	SAND to SILTY SAND	33	21	62		38.0
12.600	41.34	87.95	3.71	CLAYEY SILT to SILTY CLAY	44	28		5.0	
12.750	41.83	87.61	4.84	*VERY STIFF FINE GRAINED	88	55			
12.900	42.32	88.42	3.69	CLAYEY SILT to SILTY CLAY	44	28		5.1	
13.050	42.81	146.75	2.73	SILTY SAND to SANDY SILT	49	31	64		38.0
13.200	43.31	220.89	2.07	SILTY SAND to SANDY SILT	74	46	76		39.0
13.350	43.80	483.79	1.01	SAND	97	60	98		43.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 4-1A
Latitude: (N) 34°13' 30.4"
Longitude: (W) 118°24' 21.1"

CPT Date/Time: 4/28/2004 11:11
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 4-1A
PROJECT : Sheldon-Arleta
DATE/TIME: 4/28/2004 11:11
PROJECT No.: 43597-1
CONE/RIG : DSA0472

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	77.34	1.53	SILTY SAND to SANDY SILT	26	41	69		
.300	.98	85.77	2.25	SILTY SAND to SANDY SILT	29	46	72		
.450	1.48	38.27	3.22	CLAYEY SILT to SILTY CLAY	19	31		2.5	
.600	1.97	36.75	3.42	CLAYEY SILT to SILTY CLAY	18	29		2.4	
.750	2.46	41.21	4.17	CLAY to SILTY CLAY	27	44		2.4	
.900	2.95	54.97	5.42	CLAY	55	88		3.2	
1.050	3.44	63.11	6.29	CLAY	63	100		3.7	
1.200	3.94	57.06	6.17	CLAY	57	91		3.3	
1.350	4.43	59.05	7.16	CLAY	59	94		3.5	
1.500	4.92	62.71	6.26	CLAY	63	100		3.7	
1.650	5.41	78.96	6.13	*VERY STIFF FINE GRAINED	79	100			
1.800	5.91	75.76	5.64	*VERY STIFF FINE GRAINED	76	100			
1.950	6.40	66.45	6.34	*VERY STIFF FINE GRAINED	66	100			
2.100	6.89	64.68	5.68	*VERY STIFF FINE GRAINED	65	100			
2.250	7.38	94.92	4.95	*VERY STIFF FINE GRAINED	95	100			
2.400	7.87	194.76	3.63	*SAND to CLAYEY SAND	97	100			
2.550	8.37	573.13	2.26	*SAND to CLAYEY SAND	100	100			
2.700	8.86	564.58	2.94	*SAND to CLAYEY SAND	100	100			
2.850	9.35	616.09	3.60	*SAND to CLAYEY SAND	100	100			
3.000	9.84	544.41	1.69	SAND to SILTY SAND	100	100	100		
3.150	10.33	331.01	2.78	*SAND to CLAYEY SAND	100	100			
3.300	10.83	287.59	3.53	*SAND to CLAYEY SAND	100	100			
3.450	11.32	492.53	*****		0	0			.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

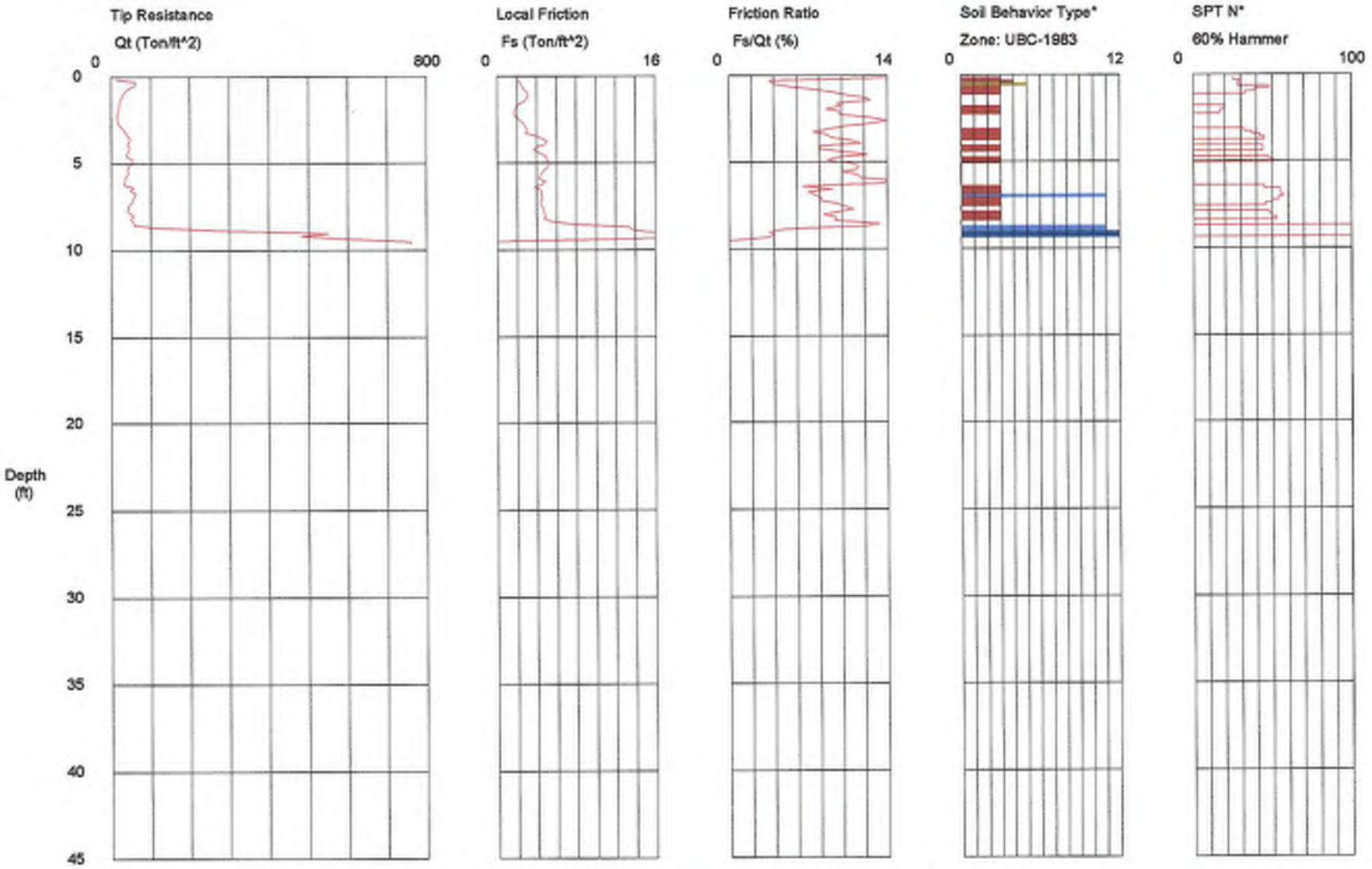
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 4-1B
Latitude: (N) 34°13' 30.4"
Longitude: (W) 118°24' 21.1"

CPT Date/Time: 4/28/2004 11:24
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 4-1B
PROJECT : Sheldon-Arleta
DATE/TIME: 4/28/2004 11:24
PROJECT No.: 43597-1
CONE/RIG : DSA0472

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	62.37	3.88	CLAYEY SILT to SILTY CLAY	31	50		3.7	
.300	.98	33.70	9.09	CLAY	34	54		2.0	
.450	1.48	22.31	12.50	CLAY	22	36		1.5	
.600	1.97	20.47	8.63	CLAY	20	33		1.4	
.750	2.46	17.02	12.53	CLAY	17	27		1.1	
.900	2.95	27.67	10.41	CLAY	28	44		1.8	
1.050	3.44	43.64	8.65	CLAY	44	70		2.6	
1.200	3.94	41.52	11.72	CLAY	42	66		2.4	
1.350	4.43	41.61	10.18	CLAY	42	67		2.4	
1.500	4.92	59.36	8.72	CLAY	59	95		3.5	
1.650	5.41	41.89	11.31	CLAY	42	67		2.4	
1.800	5.91	36.34	11.62	CLAY	36	58		2.1	
1.950	6.40	58.35	6.53	CLAY	58	93		3.4	
2.100	6.89	59.91	7.55	CLAY	60	93		3.5	
2.250	7.38	46.56	9.46	CLAY	47	70		2.7	
2.400	7.87	48.58	9.76	CLAY	49	71		2.8	
2.550	8.37	58.18	9.39	CLAY	58	82		3.4	
2.700	8.86	272.88	5.01	*VERY STIFF FINE GRAINED	100	100			
2.850	9.35	595.30	3.29	*SAND to CLAYEY SAND	100	100			

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

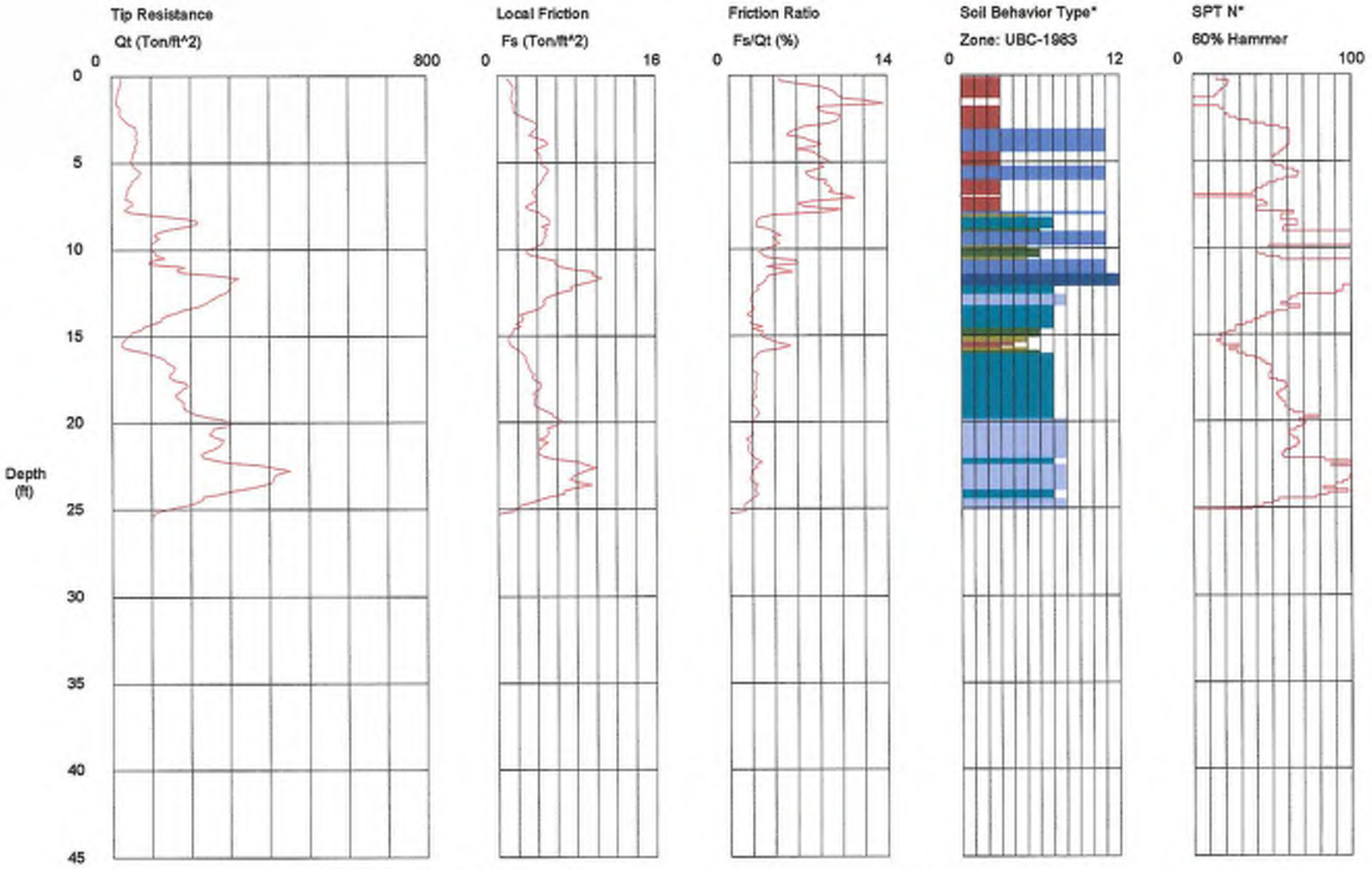
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 4-2
Latitude: (N) 34°13' 30.3"
Longitude: (W) 118°24' 21.3"

CPT Date/Time: 4/28/2004 11:43
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 25.43 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 4-2 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 11:43

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	23.33	6.12	CLAY	23	37		1.4	
.300	.98	16.54	9.40	CLAY	17	26		1.1	
.450	1.48	12.10	12.23	CLAY	12	19		.8	
.600	1.97	21.37	7.88	CLAY	21	34		1.4	
.750	2.46	29.00	9.80	CLAY	29	46		1.9	
.900	2.95	60.90	6.68	CLAY	61	97		3.6	
1.050	3.44	62.86	5.12	CLAY to SILTY CLAY	42	67		3.7	
1.200	3.94	62.89	8.18	CLAY	63	100		3.7	
1.350	4.43	55.40	7.60	CLAY	55	89		3.2	
1.500	4.92	50.44	8.84	CLAY	50	81		2.9	
1.650	5.41	67.78	7.70	*VERY STIFF FINE GRAINED	68	100			
1.800	5.91	62.18	7.39	CLAY	62	99		3.6	
1.950	6.40	45.23	8.93	CLAY	45	72		2.6	
2.100	6.89	37.00	10.19	CLAY	37	58		2.2	
2.250	7.38	53.50	6.09	CLAY	54	80		3.1	
2.400	7.87	50.82	8.37	CLAY	51	74		3.0	
2.550	8.37	219.36	2.41	SILTY SAND to SANDY SILT	73	100	99		47.0
2.700	8.86	143.46	3.55	SANDY SILT to CLAYEY SILT	57	79		8.4	
2.850	9.35	121.22	3.87	CLAYEY SILT to SILTY CLAY	61	81		7.1	
3.000	9.84	100.46	3.94	CLAYEY SILT to SILTY CLAY	50	65		5.9	
3.150	10.33	112.17	2.97	SANDY SILT to CLAYEY SILT	45	57		6.6	
3.300	10.83	95.20	6.12	*VERY STIFF FINE GRAINED	95	100			
3.450	11.32	174.05	5.60	*VERY STIFF FINE GRAINED	100	100			
3.600	11.81	306.84	3.20	*SAND to CLAYEY SAND	100	100			
3.750	12.30	297.20	2.56	SILTY SAND to SANDY SILT	99	100	100		46.5
3.900	12.80	262.67	1.88	SAND to SILTY SAND	66	75	98		46.0
4.050	13.29	217.82	2.07	SILTY SAND to SANDY SILT	73	81	93		45.0
4.200	13.78	142.81	1.57	SAND to SILTY SAND	36	39	80		43.0
4.350	14.27	101.46	1.82	SILTY SAND to SANDY SILT	34	37	70		41.0
4.500	14.76	52.64	3.01	SANDY SILT to CLAYEY SILT	21	22		3.5	
4.650	15.26	30.59	3.62	CLAYEY SILT to SILTY CLAY	15	16		2.0	
4.800	15.75	39.17	4.67	CLAY to SILTY CLAY	26	27		2.2	
4.950	16.24	125.59	2.29	SILTY SAND to SANDY SILT	42	42	74		42.0
5.100	16.73	157.88	1.99	SILTY SAND to SANDY SILT	53	53	88		42.5
5.250	17.22	146.67	2.52	SILTY SAND to SANDY SILT	49	48	77		42.0
5.400	17.72	188.64	2.29	SILTY SAND to SANDY SILT	63	61	84		43.0
5.550	18.21	173.93	2.18	SILTY SAND to SANDY SILT	58	55	82		42.5
5.700	18.70	176.76	2.10	SILTY SAND to SANDY SILT	59	56	82		42.5
5.850	19.19	183.76	2.31	SILTY SAND to SANDY SILT	61	57	82		42.5
6.000	19.69	248.20	2.29	SILTY SAND to SANDY SILT	83	76	91		44.0
6.150	20.18	298.22	2.00	SAND to SILTY SAND	75	68	96		44.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 4-2

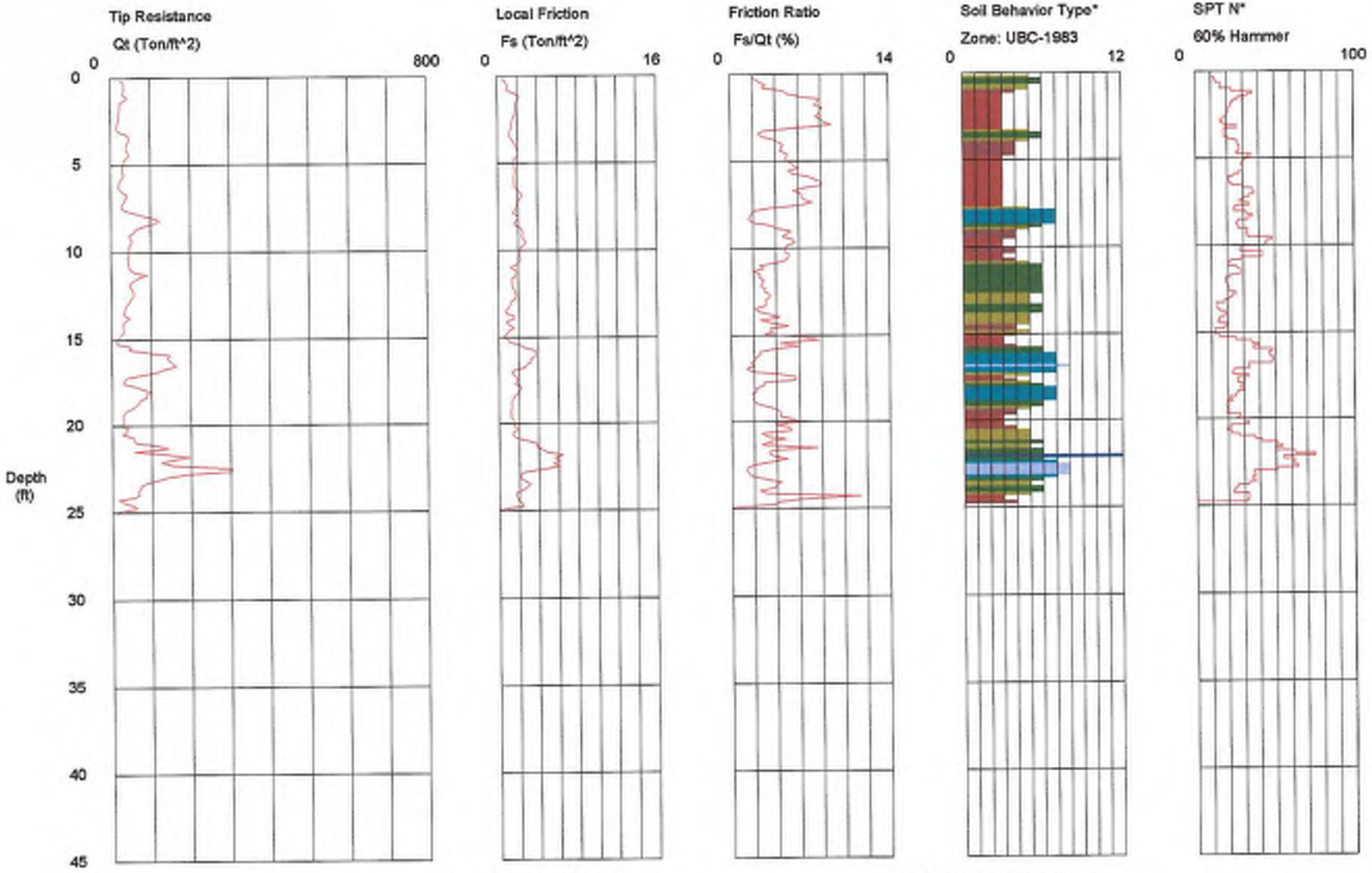
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	246.64	2.06	SAND to SILTY SAND	62	55	90		43.5
6.450	21.16	279.04	1.81	SAND to SILTY SAND	70	62	93		44.0
6.600	21.65	239.96	1.66	SAND to SILTY SAND	60	53	88		43.5
6.750	22.15	255.66	2.27	SILTY SAND to SANDY SILT	85	74	90		43.5
6.900	22.64	418.17	2.39	*SAND to CLAYEY SAND	100	100			
7.050	23.13	410.88	1.86	SAND to SILTY SAND	100	87	100		45.5
7.200	23.62	382.12	2.48	SILTY SAND to SANDY SILT	100	100	100		45.0
7.350	24.11	269.41	2.49	SILTY SAND to SANDY SILT	90	75	90		43.5
7.500	24.61	211.31	1.59	SAND to SILTY SAND	53	43	83		42.0
7.650	25.10	118.16	1.47	SAND to SILTY SAND	30	24	66		39.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 4-3
Latitude: (N) 34°13' 31.0"
Longitude: (W) 118°24' 21.6

CPT Date/Time: 4/28/2004 1:42
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 4-3 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 1:42:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	35.35	2.67	SANDY SILT to CLAYEY SILT	14	23		2.4	
.300	.98	32.00	4.72	CLAY	32	51		1.9	
.450	1.48	24.96	7.93	CLAY	25	40		1.7	
.600	1.97	22.68	8.17	CLAY	23	36		1.5	
.750	2.46	21.55	7.55	CLAY	22	34		1.4	
.900	2.95	16.09	8.98	CLAY	16	26		1.1	
1.050	3.44	48.00	2.50	SANDY SILT to CLAYEY SILT	19	31		3.2	
1.200	3.94	41.26	4.31	CLAY to SILTY CLAY	28	44		2.4	
1.350	4.43	47.31	4.42	CLAY to SILTY CLAY	32	50		2.8	
1.500	4.92	33.42	4.85	CLAY	33	53		1.9	
1.650	5.41	29.43	5.96	CLAY	29	47		1.7	
1.800	5.91	23.76	7.01	CLAY	24	38		1.4	
1.950	6.40	21.93	8.08	CLAY	22	35		1.4	
2.100	6.89	39.32	6.29	CLAY	39	61		2.3	
2.250	7.38	27.33	7.28	CLAY	27	41		1.6	
2.400	7.87	74.13	2.03	SILTY SAND to SANDY SILT	25	36	68		42.5
2.550	8.37	108.87	1.58	SILTY SAND to SANDY SILT	36	51	79		44.0
2.700	8.86	59.76	4.03	CLAYEY SILT to SILTY CLAY	30	41		3.5	
2.850	9.35	54.94	4.59	CLAY to SILTY CLAY	37	49		3.2	
3.000	9.84	45.82	4.91	CLAY to SILTY CLAY	31	40		2.7	
3.150	10.33	41.83	5.16	CLAY	42	53		2.4	
3.300	10.83	45.83	4.12	CLAYEY SILT to SILTY CLAY	23	28		2.7	
3.450	11.32	91.88	1.98	SILTY SAND to SANDY SILT	31	37	70		42.0
3.600	11.81	47.85	2.90	SANDY SILT to CLAYEY SILT	19	23		3.1	
3.750	12.30	55.55	3.00	SANDY SILT to CLAYEY SILT	22	26		3.7	
3.900	12.80	48.99	3.40	CLAYEY SILT to SILTY CLAY	24	28		2.8	
4.050	13.29	34.82	3.06	CLAYEY SILT to SILTY CLAY	17	19		2.3	
4.200	13.78	47.08	3.30	CLAYEY SILT to SILTY CLAY	24	26		3.1	
4.350	14.27	29.73	3.50	CLAYEY SILT to SILTY CLAY	15	16		1.9	
4.500	14.76	22.90	3.65	CLAY to SILTY CLAY	15	16		1.5	
4.650	15.26	14.68	7.74	CLAY	15	15		.9	
4.800	15.75	90.67	4.09	CLAYEY SILT to SILTY CLAY	45	47		5.3	
4.950	16.24	146.62	2.19	SILTY SAND to SANDY SILT	49	50	78		42.5
5.100	16.73	132.64	1.99	SILTY SAND to SANDY SILT	44	44	75		42.0
5.250	17.22	38.78	4.22	CLAY to SILTY CLAY	26	25		2.2	
5.400	17.72	56.73	2.86	SANDY SILT to CLAYEY SILT	23	22		3.7	
5.550	18.21	86.03	2.25	SILTY SAND to SANDY SILT	29	27	61		39.0
5.700	18.70	67.85	1.92	SILTY SAND to SANDY SILT	23	21	54		38.0
5.850	19.19	36.70	3.51	CLAYEY SILT to SILTY CLAY	18	17		2.4	
6.000	19.69	29.93	4.28	CLAY to SILTY CLAY	20	18		1.7	
6.150	20.18	40.76	3.80	CLAYEY SILT to SILTY CLAY	20	19		2.3	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 4-3

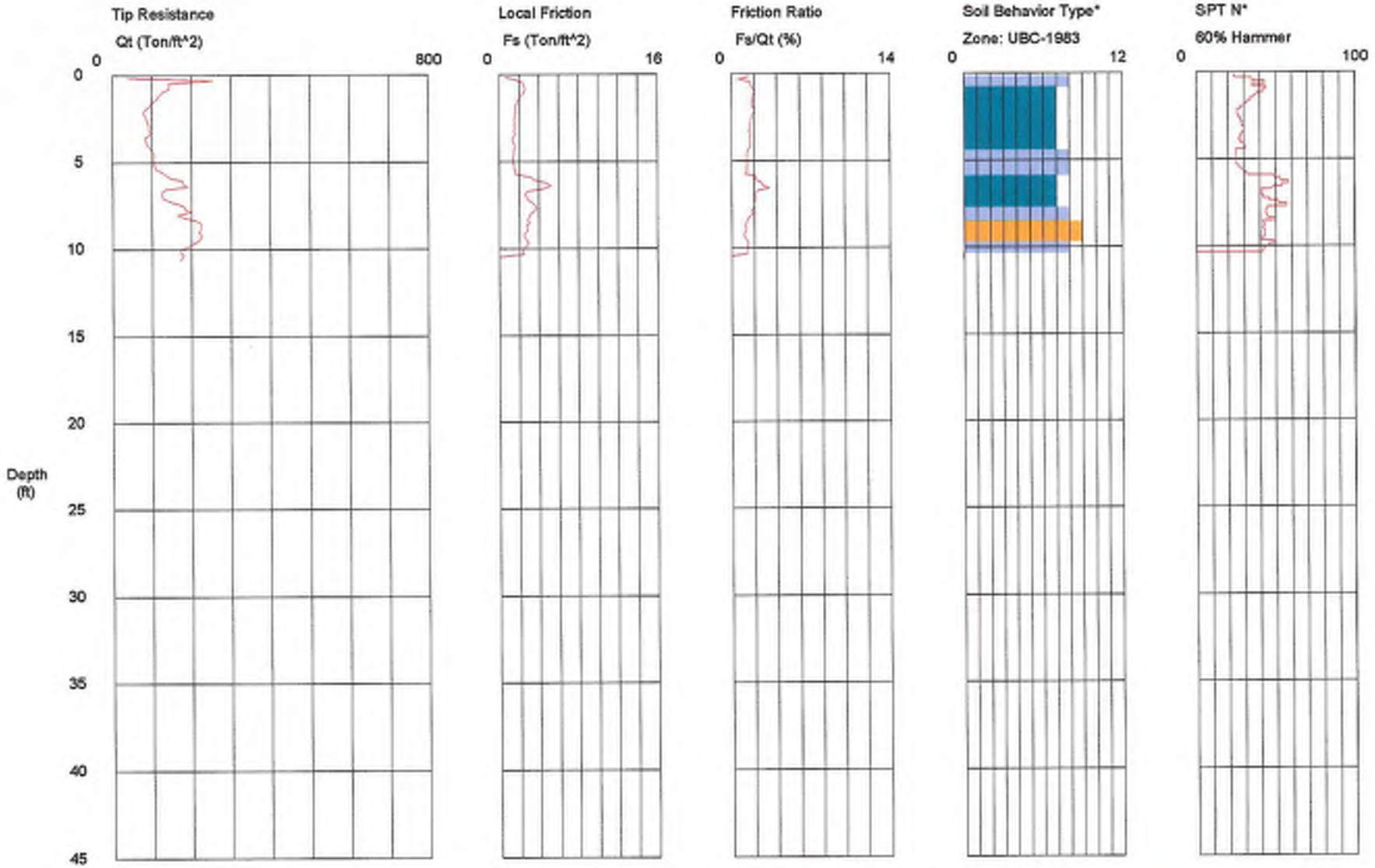
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	53.68	2.67	SANDY SILT to CLAYEY SILT	21	19		3.5	
6.450	21.16	117.12	3.28	SANDY SILT to CLAYEY SILT	47	42		6.8	
6.600	21.65	137.34	3.48	SANDY SILT to CLAYEY SILT	55	48		8.0	
6.750	22.15	124.55	4.92	*VERY STIFF FINE GRAINED	100	100			
6.900	22.64	301.97	1.35	SAND	60	52	94		44.0
7.050	23.13	118.50	1.77	SILTY SAND to SANDY SILT	40	34	67		39.0
7.200	23.62	72.68	3.90	CLAYEY SILT to SILTY CLAY	36	31		4.2	
7.350	24.11	55.88	3.10	SANDY SILT to CLAYEY SILT	22	19		3.6	
7.500	24.61	56.27	4.14	CLAYEY SILT to SILTY CLAY	28	23		3.2	
7.650	25.10	11.57	*****		0	0			39.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 5-1
Latitude: (N) 34°13' 34.6"
Longitude: (W) 118°24' 15.9"

CPT Date/Time: 4/28/2004 3:23
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 5-1 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 3:23:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	143.98	1.68	SAND to SILTY SAND	36	58	87		
.300	.98	126.51	2.03	SILTY SAND to SANDY SILT	42	67	83		
.450	1.48	107.24	1.81	SILTY SAND to SANDY SILT	36	57	78		
.600	1.97	85.90	1.97	SILTY SAND to SANDY SILT	29	46	72		49.0
.750	2.46	85.57	1.83	SILTY SAND to SANDY SILT	29	46	72		48.0
.900	2.95	92.85	1.61	SILTY SAND to SANDY SILT	31	49	74		47.5
1.050	3.44	95.41	1.75	SILTY SAND to SANDY SILT	32	51	75		47.0
1.200	3.94	87.62	1.63	SILTY SAND to SANDY SILT	29	47	73		46.0
1.350	4.43	104.53	1.42	SAND to SILTY SAND	26	42	78		46.5
1.500	4.92	104.81	1.33	SAND to SILTY SAND	26	42	78		46.0
1.650	5.41	112.11	1.31	SAND to SILTY SAND	28	45	80		46.0
1.800	5.91	145.39	2.22	SILTY SAND to SANDY SILT	48	78	87		46.5
1.950	6.40	190.87	2.74	SILTY SAND to SANDY SILT	64	100	95		47.5
2.100	6.89	127.24	2.03	SILTY SAND to SANDY SILT	42	66	83		45.5
2.250	7.38	164.15	2.02	SILTY SAND to SANDY SILT	55	82	91		46.0
2.400	7.87	200.73	1.77	SAND to SILTY SAND	50	73	96		46.5
2.550	8.37	214.52	1.35	SAND to SILTY SAND	54	76	98		46.5
2.700	8.86	223.35	1.29	SAND to SILTY SAND	56	77	99		46.5
2.850	9.35	225.06	1.12	SAND	45	60	98		46.5
3.000	9.84	191.92	1.43	SAND to SILTY SAND	48	62	93		46.0
3.150	10.33	181.36	1.40	SAND to SILTY SAND	45	58	91		45.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

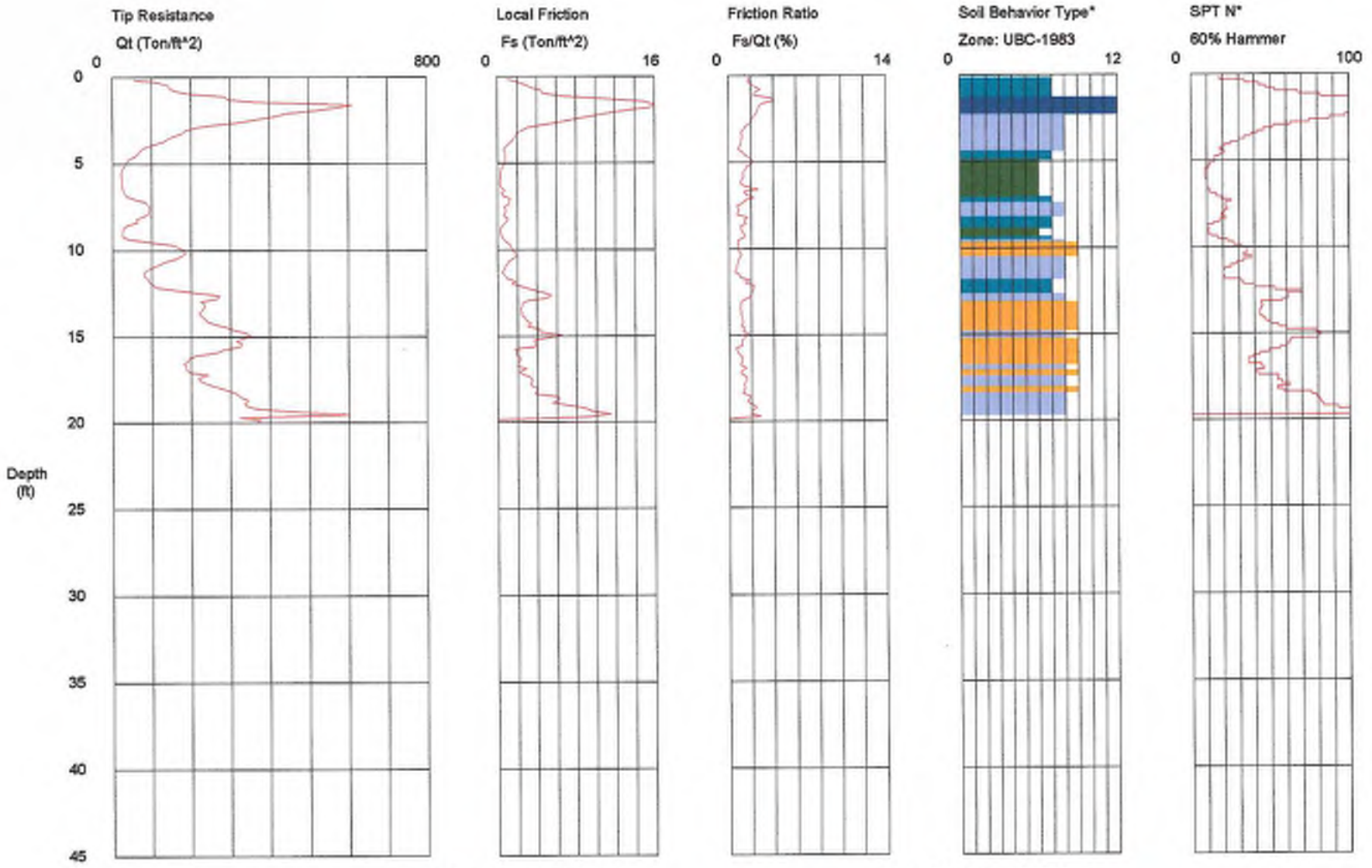
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 5-2
Latitude: (N) 34°13' 34.7"
Longitude: (W) 118°24' 16.1"

CPT Date/Time: 4/28/2004 3:38
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 5-2 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 3:38:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	142.28	2.01	SILTY SAND to SANDY SILT	47	76	86		
.300	.98	192.95	2.39	SILTY SAND to SANDY SILT	64	100	95		
.450	1.48	365.20	4.07	*SAND to CLAYEY SAND	100	100			
.600	1.97	509.21	2.61	*SAND to CLAYEY SAND	100	100			
.750	2.46	369.25	2.17	SAND to SILTY SAND	92	100	100		
.900	2.95	209.72	1.50	SAND to SILTY SAND	52	84	98		
1.050	3.44	157.41	1.19	SAND to SILTY SAND	39	63	89		49.0
1.200	3.94	101.59	1.11	SAND to SILTY SAND	25	41	77		46.5
1.350	4.43	65.79	1.23	SILTY SAND to SANDY SILT	22	35	64		44.5
1.500	4.92	36.73	2.17	SANDY SILT to CLAYEY SILT	15	23		2.4	
1.650	5.41	24.29	1.52	SANDY SILT to CLAYEY SILT	10	16		1.9	
1.800	5.91	24.88	1.31	SANDY SILT to CLAYEY SILT	10	16		2.0	
1.950	6.40	25.77	1.46	SANDY SILT to CLAYEY SILT	10	16		2.0	
2.100	6.89	37.11	1.56	SANDY SILT to CLAYEY SILT	15	23		2.9	
2.250	7.38	90.23	1.30	SAND to SILTY SAND	23	34	73		44.0
2.400	7.87	94.11	.87	SAND to SILTY SAND	24	34	75		43.5
2.550	8.37	64.55	1.38	SILTY SAND to SANDY SILT	22	30	64		42.0
2.700	8.86	26.50	1.12	SANDY SILT to CLAYEY SILT	11	15		2.1	
2.850	9.35	40.95	1.37	SILTY SAND to SANDY SILT	14	18	50		38.5
3.000	9.84	172.55	.79	SAND	35	45	90		45.5
3.150	10.33	174.99	1.16	SAND to SILTY SAND	44	56	90		45.0
3.300	10.83	119.66	.80	SAND to SILTY SAND	30	37	78		43.5
3.450	11.32	79.73	.51	SAND to SILTY SAND	20	24	66		41.0
3.600	11.81	94.55	1.93	SILTY SAND to SANDY SILT	32	37	70		42.0
3.750	12.30	165.57	2.15	SILTY SAND to SANDY SILT	55	64	86		44.0
3.900	12.80	265.93	1.86	SAND to SILTY SAND	66	76	99		46.0
4.050	13.29	234.93	1.05	SAND	47	53	95		45.5
4.200	13.78	225.06	1.08	SAND	45	50	93		45.0
4.350	14.27	259.54	1.29	SAND	52	56	97		45.5
4.500	14.76	336.22	1.26	SAND	67	71	100		46.5
4.650	15.26	315.40	1.16	SAND	63	66	100		46.0
4.800	15.75	282.91	.62	SAND	57	58	98		45.5
4.950	16.24	195.70	1.15	SAND to SILTY SAND	49	50	87		44.0
5.100	16.73	187.81	1.04	SAND	38	37	85		43.5
5.250	17.22	243.54	1.05	SAND	49	48	92		44.5
5.400	17.72	237.35	1.41	SAND to SILTY SAND	59	58	91		44.0
5.550	18.21	306.40	1.27	SAND	61	59	98		45.0
5.700	18.70	347.23	1.79	SAND to SILTY SAND	87	82	100		45.5
5.850	19.19	366.27	2.43	SILTY SAND to SANDY SILT	100	100	100		45.5
6.000	19.69	323.17	2.78	*SAND to CLAYEY SAND	100	100			

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SREAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

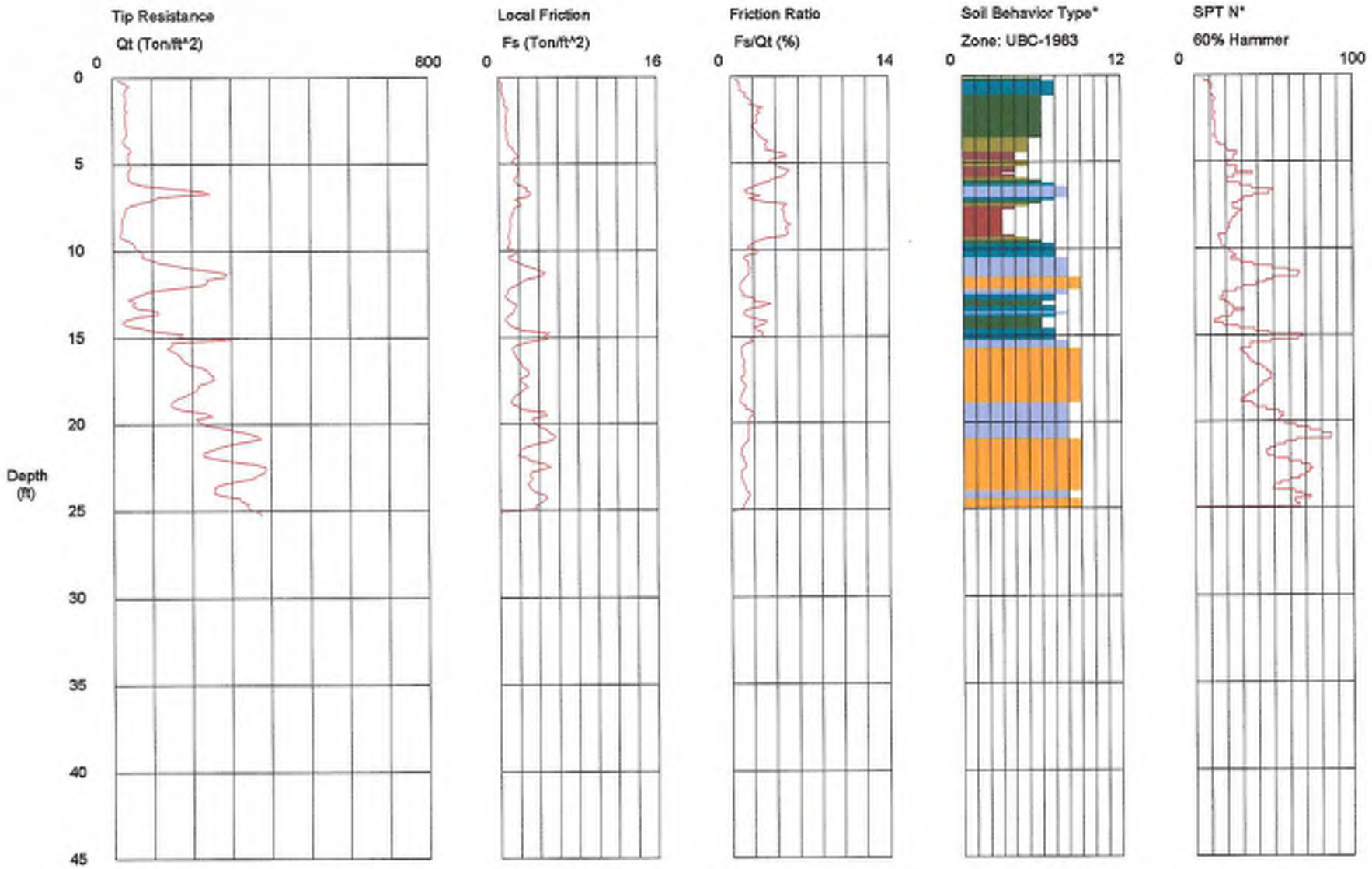
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 5-3
Latitude: (N) 34°13' 35.1"
Longitude (W) 118°24' 16.6"

CPT Date/Time: 4/28/2004 4:04
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 25.26 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 5-3 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 4:04:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	41.74	.78	SILTY SAND to SANDY SILT	14	22	51		
.300	.98	28.16	1.36	SANDY SILT to CLAYEY SILT	11	18		2.2	
.450	1.48	34.98	1.87	SANDY SILT to CLAYEY SILT	14	22		2.8	
.600	1.97	37.72	2.34	SANDY SILT to CLAYEY SILT	15	24		2.5	
.750	2.46	32.93	2.30	SANDY SILT to CLAYEY SILT	13	21		2.2	
.900	2.95	34.80	1.88	SANDY SILT to CLAYEY SILT	14	22		2.8	
1.050	3.44	32.36	2.54	SANDY SILT to CLAYEY SILT	13	21		2.1	
1.200	3.94	32.14	3.04	CLAYEY SILT to SILTY CLAY	16	26		2.1	
1.350	4.43	38.73	4.58	CLAY to SILTY CLAY	26	41		2.3	
1.500	4.92	40.69	3.30	CLAYEY SILT to SILTY CLAY	20	33		2.7	
1.650	5.41	38.17	5.21	CLAY	38	61		2.2	
1.800	5.91	40.42	3.78	CLAYEY SILT to SILTY CLAY	20	32		2.4	
1.950	6.40	150.61	1.86	SILTY SAND to SANDY SILT	50	80	88		46.5
2.100	6.89	118.02	2.56	SILTY SAND to SANDY SILT	39	61	81		45.0
2.250	7.38	45.39	4.99	CLAY	45	68		2.6	
2.400	7.87	29.39	4.79	CLAY	29	43		1.7	
2.550	8.37	23.57	4.81	CLAY	24	33		1.4	
2.700	8.86	22.15	4.98	CLAY	22	30		1.3	
2.850	9.35	30.32	3.18	CLAYEY SILT to SILTY CLAY	15	20		2.0	
3.000	9.84	58.60	1.42	SILTY SAND to SANDY SILT	20	25	59		40.0
3.150	10.33	74.42	1.31	SILTY SAND to SANDY SILT	25	32	65		41.5
3.300	10.83	156.30	1.52	SAND to SILTY SAND	39	48	86		44.5
3.450	11.32	287.14	1.62	SAND to SILTY SAND	72	87	100		46.5
3.600	11.81	238.81	.96	SAND	48	57	97		46.0
3.750	12.30	94.63	.84	SAND to SILTY SAND	24	28	70		42.0
3.900	12.80	38.69	2.14	SANDY SILT to CLAYEY SILT	15	18		2.5	
4.050	13.29	60.78	2.64	SANDY SILT to CLAYEY SILT	24	27		4.0	
4.200	13.78	67.82	1.27	SILTY SAND to SANDY SILT	23	25	59		39.0
4.350	14.27	36.35	2.94	CLAYEY SILT to SILTY CLAY	18	20		2.4	
4.500	14.76	176.15	2.89	SILTY SAND to SANDY SILT	59	62	85		43.5
4.650	15.26	148.89	1.97	SILTY SAND to SANDY SILT	50	52	80		42.5
4.800	15.75	149.58	.88	SAND	30	31	79		42.5
4.950	16.24	175.39	1.04	SAND	35	36	83		43.0
5.100	16.73	224.37	1.03	SAND	45	45	90		44.0
5.250	17.22	254.77	1.14	SAND	51	50	93		44.5
5.400	17.72	219.49	1.15	SAND	44	43	89		44.0
5.550	18.21	194.98	1.07	SAND	39	37	85		43.0
5.700	18.70	151.10	.77	SAND	30	29	77		42.0
5.850	19.19	177.08	1.25	SAND to SILTY SAND	44	41	81		42.5
6.000	19.69	209.47	1.60	SAND to SILTY SAND	52	48	86		43.0
6.150	20.18	265.04	1.51	SAND to SILTY SAND	66	60	92		44.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-AL 5-3

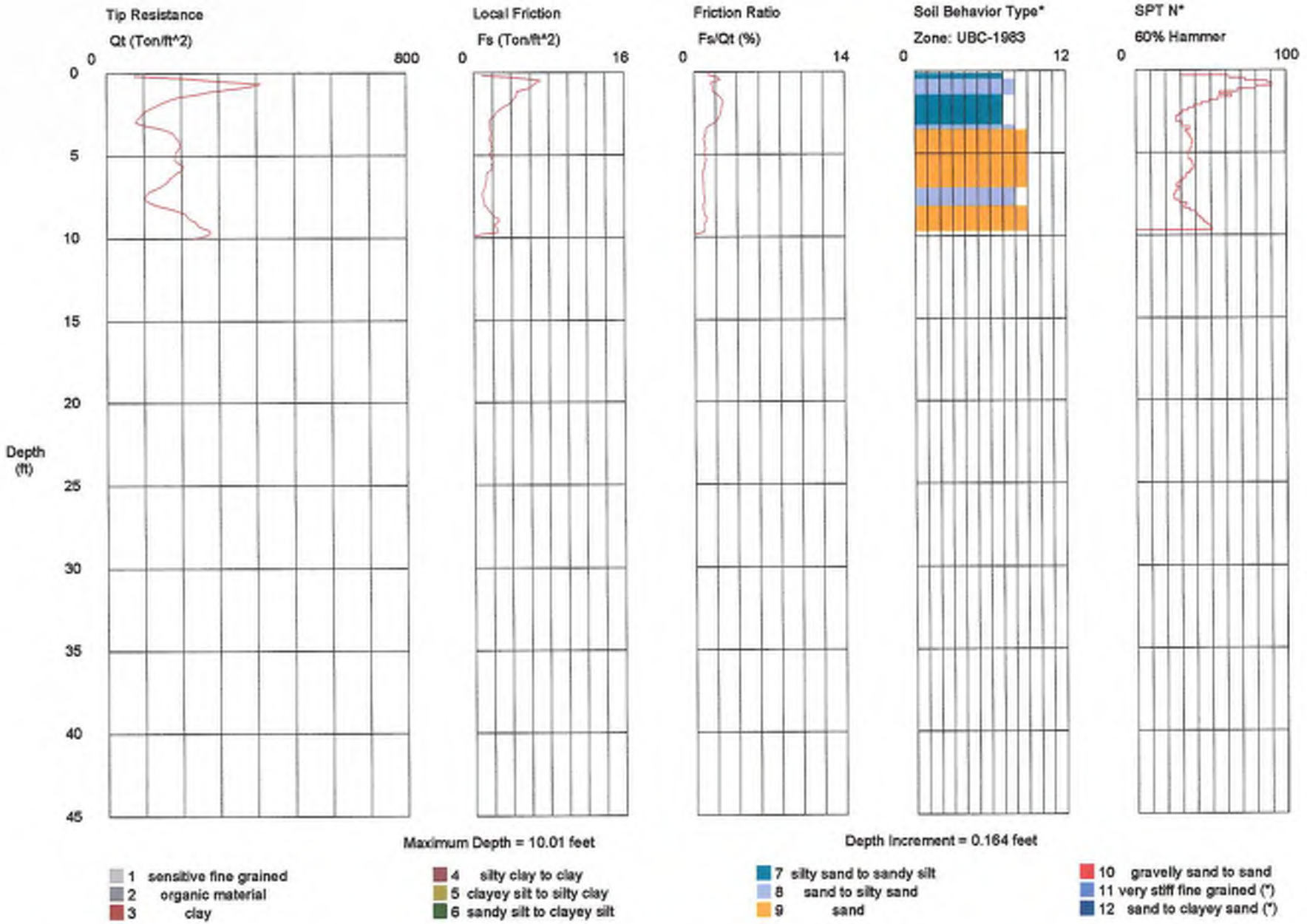
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	364.38	1.54	SAND to SILTY SAND	91	82	100		45.5
6.450	21.16	295.64	1.25	SAND	59	52	95		44.5
6.600	21.65	227.41	.93	SAND	45	40	87		43.0
6.750	22.15	300.36	1.00	SAND	60	52	94		44.0
6.900	22.64	387.52	1.11	SAND	78	67	100		45.0
7.050	23.13	353.66	.91	SAND	71	60	98		44.5
7.200	23.62	258.03	1.18	SAND	52	43	89		43.5
7.350	24.11	272.72	1.66	SAND to SILTY SAND	68	57	90		43.5
7.500	24.61	343.91	1.18	SAND	69	57	97		44.5
7.650	25.10	370.02	*****		0	0			39.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Klienfelder, Inc

CPT-AL 6-1
Latitude: (N) 34°13' 34.3"
Longitude: (W) 118°24' 14.3"

CPT Date/Time: 4/28/2004 4:30
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 6-1 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 4:30:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	296.66	2.42	SILTY SAND to SANDY SILT	99	100	100		
.300	.98	334.55	1.78	SAND to SILTY SAND	84	100	100		
.450	1.48	193.11	2.33	SILTY SAND to SANDY SILT	64	100	95		
.600	1.97	136.27	2.67	SILTY SAND to SANDY SILT	45	73	85		
.750	2.46	95.86	2.48	SILTY SAND to SANDY SILT	32	51	75		48.5
.900	2.95	77.14	2.16	SILTY SAND to SANDY SILT	26	41	69		47.0
1.050	3.44	155.14	1.11	SAND to SILTY SAND	39	62	89		49.0
1.200	3.94	186.60	.92	SAND	37	60	94		49.0
1.350	4.43	199.22	.92	SAND	40	64	96		49.0
1.500	4.92	183.73	.90	SAND	37	59	94		48.0
1.650	5.41	189.97	1.08	SAND	38	61	95		48.0
1.800	5.91	199.53	.91	SAND	40	64	96		48.0
1.950	6.40	168.23	.80	SAND	34	54	91		47.0
2.100	6.89	143.75	.85	SAND	29	45	87		46.0
2.250	7.38	106.23	.87	SAND to SILTY SAND	27	40	78		44.5
2.400	7.87	117.54	.96	SAND to SILTY SAND	29	43	81		44.5
2.550	8.37	192.15	.84	SAND	38	54	95		46.5
2.700	8.86	222.48	1.17	SAND	44	61	99		46.5
2.850	9.35	252.14	.92	SAND	50	67	100		47.0
3.000	9.84	262.80	*****		0	0			40.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 120 pcf
ASSUMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

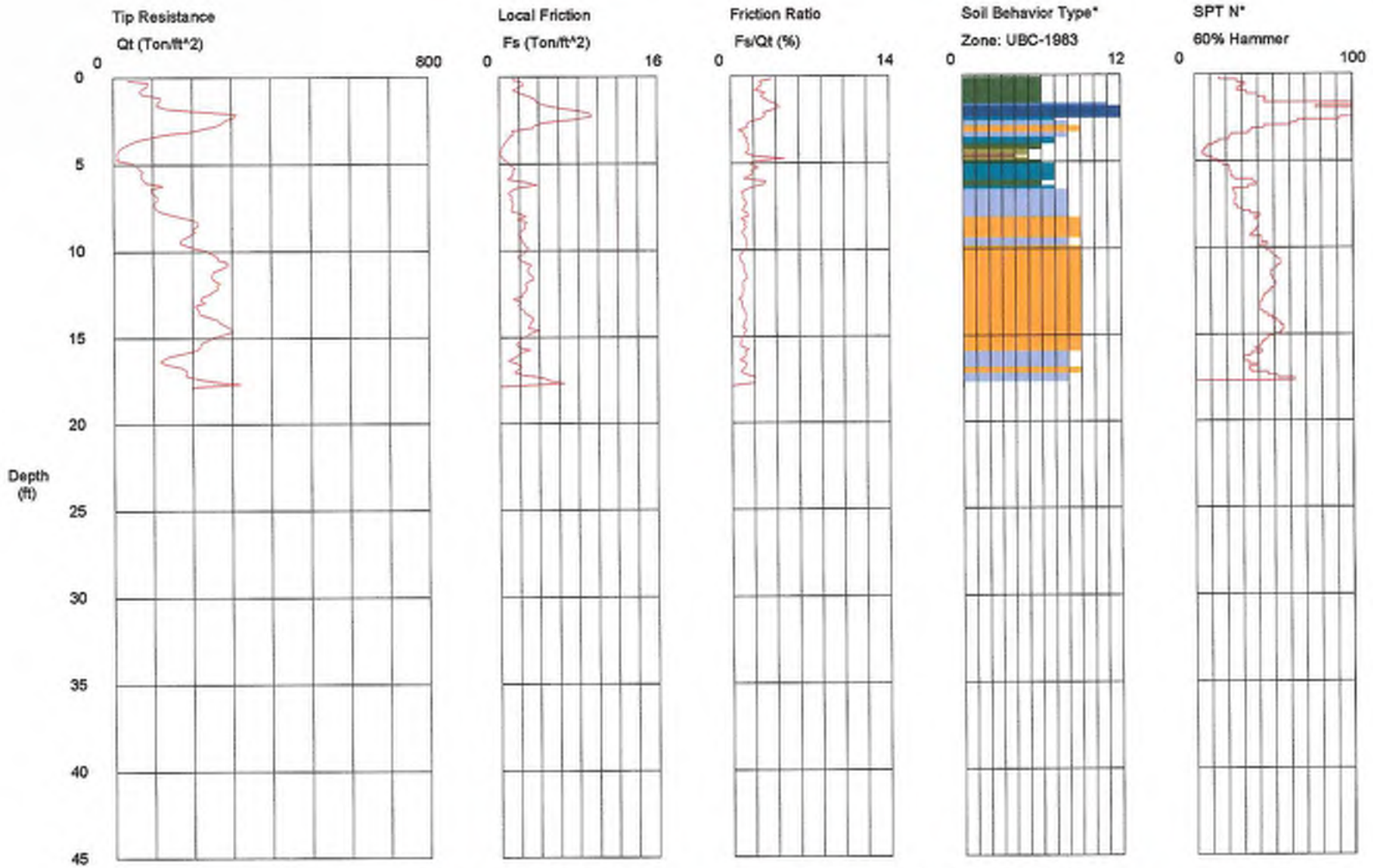
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

Klienfelder, Inc

CPT-AL 6-2
Latitude: (N) 34°13' 34.7"
Longitude: (W) 118°24' 14.7"

CPT Date/Time: 4/28/2004 4:45
Sheldon-Arleta CPT Investigation
Job Number: 43597-1



Maximum Depth = 18.04 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

CPT INTERPRETATIONS

SOUNDING : CPT-AL 6-2 PROJECT No.: 43597-1
PROJECT : Sheldon-Arleta CONE/RIG : DSA0472
DATE/TIME: 4/28/2004 4:45:

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	87.95	2.79	SANDY SILT to CLAYEY SILT	35	56		5.2	
.300	.98	72.39	3.03	SANDY SILT to CLAYEY SILT	29	46		4.3	
.450	1.48	111.53	3.42	SANDY SILT to CLAYEY SILT	45	71		6.6	
.600	1.97	229.82	3.53	*SAND to CLAYEY SAND	100	100			
.750	2.46	284.08	2.72	SILTY SAND to SANDY SILT	95	100	100		
.900	2.95	229.19	1.51	SAND to SILTY SAND	57	92	100		
1.050	3.44	100.73	1.10	SAND to SILTY SAND	25	40	77		47.0
1.200	3.94	28.87	1.59	SANDY SILT to CLAYEY SILT	12	18		2.3	
1.350	4.43	9.84	1.30	CLAYEY SILT to SILTY CLAY	5	8		.8	
1.500	4.92	47.15	1.93	SANDY SILT to CLAYEY SILT	19	30		3.1	
1.650	5.41	76.54	1.79	SILTY SAND to SANDY SILT	26	41	69		44.5
1.800	5.91	77.90	1.14	SAND to SILTY SAND	19	31	69		44.0
1.950	6.40	96.68	1.85	SILTY SAND to SANDY SILT	32	52	75		44.5
2.100	6.89	112.85	1.11	SAND to SILTY SAND	28	44	80		45.0
2.250	7.38	105.59	1.32	SAND to SILTY SAND	26	40	78		44.5
2.400	7.87	141.44	1.40	SAND to SILTY SAND	35	51	86		45.5
2.550	8.37	215.04	1.30	SAND to SILTY SAND	54	76	98		46.5
2.700	8.86	207.24	1.08	SAND	41	57	97		46.5
2.850	9.35	171.19	1.30	SAND to SILTY SAND	43	57	91		45.5
3.000	9.84	215.27	1.35	SAND to SILTY SAND	54	70	96		46.0
3.150	10.33	264.88	.70	SAND	53	67	100		46.5
3.300	10.83	289.99	1.10	SAND	58	72	100		47.0
3.450	11.32	250.25	1.18	SAND	50	61	99		46.0
3.600	11.81	269.35	1.03	SAND	54	64	100		46.5
3.750	12.30	251.52	1.07	SAND	50	59	98		46.0
3.900	12.80	220.68	.62	SAND	44	50	93		45.0
4.050	13.29	212.30	.95	SAND	42	48	92		45.0
4.200	13.78	240.80	1.28	SAND	48	53	95		45.5
4.350	14.27	284.16	1.07	SAND	57	61	99		46.0
4.500	14.76	283.72	1.10	SAND	57	60	99		46.0
4.650	15.26	225.37	.88	SAND	45	47	92		44.5
4.800	15.75	205.26	1.49	SAND to SILTY SAND	51	53	88		44.0
4.950	16.24	125.70	1.06	SAND to SILTY SAND	31	32	74		42.0
5.100	16.73	171.30	1.31	SAND to SILTY SAND	43	43	82		43.0
5.250	17.22	182.94	1.21	SAND to SILTY SAND	46	45	84		43.0
5.400	17.72	322.02	2.03	SAND to SILTY SAND	81	78	100		45.5

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSOMED TOTAL UNIT WT = 120 pcf
ASSOMED DEPTH OF WATER TABLE = **** ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on ROBERTSON and CAMPANELLA, 1989

APPENDIX B

GEOTECHNICAL LABORATORY TESTING FOR BORINGS B-1 THROUGH B-14

APPENDIX B
GEOTECHNICAL LABORATORY TESTING FOR BORINGS B-1 THROUGH B-14

This appendix presents the results of geotechnical laboratory tests performed on soil samples from Borings B-1 through B-14. The laboratory tests were performed on representative intact and bulk soil samples to estimate engineering characteristics of the various earth materials encountered. Testing was performed in accordance with one of the following references:

1) Lambe, T. William, Soil Testing for Engineers, Wiley, New York, 1951

2) Laboratory Soils Testing, U.S. Army, Office of the Chief of Engineers, Engineering Manual No. 1110-2-1906, November 30, 1970

3) ASTM Standards for Soil Testing, latest revisions

4) Uniform Building Code, 1997 edition

LABORATORY MOISTURE AND UNIT WEIGHT DETERMINATIONS

Natural moisture content and dry unit weight tests were performed on soil samples collected from the borings in accordance with ASTM Standard Test Method D 2216 and D 2937, respectively. The results are presented on the Logs of Borings and are summarized in Table B-1, Moisture Content and Dry Unit Weight.

HYDROMETER

Hydrometer testing was performed on ten (10) selected soil samples to evaluate the gradation characteristics of the fine grain soils passing the #200 sieve, and to aid in the classification of the soils. The tests were performed in general accordance with ASTM Test Method D 422. Results of the tests are presented on Plates B-1 and B-2, Grain Size Distribution.

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SIEVE ANALYSES

Sieve analysis was performed on two (2) samples of the materials encountered at the site to evaluate the grain size distribution characteristics of the soils and to aid in their classification. The tests were performed in general accordance with ASTM Test Method D 422. The results of the tests are presented on Plate B-2, Grain Size Distribution.

WASH SIEVE

The percent passing #200 sieve of five (5) selected soil samples were evaluated by wash sieving in accordance with ASTM Standard Test Method D 1140-92. The test results are summarized in Table B-2, Wash Sieve Test Results.

PLASTICITY INDEX

Plasticity index testing was performed on nine (9) selected samples of the on-site soils to determine plasticity characteristics and to aid in the classification of the soil. The tests were performed in accordance with ASTM Standard Test Method D 4318. The test results are presented on Plate B-3, Plasticity Chart and in Table B-3, Plasticity Index Test Results. Samples with results that were 'non-plastic' are not plotted on Plate B-3.

DIRECT SHEAR

Direct shear tests were conducted on four (4) remolded soil samples and two (2) relatively undisturbed soil samples in accordance with ASTM Standard Test Method D 3080 to evaluate the shear strength parameters of the materials. The remolded samples were compacted to approximately 90 percent relative compaction at a moisture content near the optimum moisture content. Prior to shearing, the samples were soaked with water to saturation or near saturation moisture contents. The test results are presented on Plates B-4 through B-9, Direct Shear Test.

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CONSOLIDATION

Consolidation testing was performed on fourteen (14) relatively undisturbed samples and one remolded sample. The remolded sample was compacted to approximately 90 percent relative compaction at a moisture content near the optimum moisture content. The tests were performed in general accordance with ASTM Standard Test Method D 2435. The test results are presented on Plates B-10 through B-24, Consolidation Test. Water was added to the samples at various surcharge pressures to evaluate the effects of saturation of the soil samples under surcharge loads.

MAXIMUM UNIT WEIGHT/OPTIMUM MOISTURE TEST

Maximum dry unit weight/optimum moisture content test was performed on six selected bulk samples of the on-site soils to determine compaction characteristics. The tests were performed in accordance with ASTM Standard Test Method D-1557. The test results are presented in Table B-4, Maximum Dry Unit Weight/Optimum Moisture Test Results, and on Plates B-25 through B-30, Max Density Test Data.

CORROSIVITY TESTS

A series of chemical tests were performed on five (5) selected soil samples collected from the borings to estimate pH, resistivity, and sulfate and chloride contents. The test results shall be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to the construction materials. The results of the tests are presented in Table B-5, Corrosion Test Results.

R-VALUE TESTING

R-value testing was performed on three (3) samples of the near-surface soils encountered at the site. The test was performed in general accordance with Caltrans Standard Test Method 301. The test results are presented in Table B-6, R-Value Test Results.

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Table B-1
Moisture Content and Dry Unit Weight

Boring	Depth (ft)	Dry Unit Weight (pcf)	Moisture (%)
B-1	2.5	-	0.5
B-1	5	-	0.5
B-2	2.5	-	2.0
B-2	5	-	8.7
B-3	2.5	112	13.1
B-3	5	112	12.2
B-3	7.5	102	4.2
B-3	15	111	13.5
B-4	2.5	99	5.3
B-4	5	112	8.5
B-4	7.5	100	5.4
B-4	10	109	2.8
B-4	20	125	0.4
B-5	2.5	114	4.7
B-5	5	102	6.1
B-5	7.5	117	3.8
B-5	10	98	17.8
B-5	15	109	13.7
B-6	2.5	106	10.8
B-6	5	112	14.3
B-7	2.5	112	8.2
B-7	5	94	25.4
B-7	10	106	15.8
B-7	20	81	20.0
B-8	2.5	121	3.5
B-8	7.5	116	4.6
B-8	15	117	7.1
B-8	20	102	18.8
B-8	30	88	31.8
B-9	5	115	14.9
B-9	7.5	102	18.5
B-9	10	106	21.5
B-9	20	86	10.9
B-9	30	109	17.1
B-9	40	105	14.3
B-10	5	102	12.0
B-10	7.5	110	9.4
B-10	10	82	34.1
B-10	15	101	19.3

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Table B-1 (continued)
Moisture Content and Dry Unit Weight

Boring	Depth (ft)	Dry Unit Weight (pcf)	Moisture (%)
B-10	20	114	13.1
B-11	2.5	97	10.1
B-11	5	114	2.8
B-12	2.5	91	14.4
B-13	5	112	8.2
B-13	10	111	8.0
B-13	20	111	15.2
B-14	2.5	102	14.0
B-14	7.5	106	10.4
B-14	20	111	14.3
B-14	25	111	17.2
B-14	30	112	17.8
B-14	35	86	10.7

Table B-2
Wash Sieve Test Results

Boring	Depth (ft)	Percent Passing No. 200 (0.075 mm)
B-3	15	47
B-5	7.5	49
B-6	5	53
B-14	30	55
B-14	35	51

Table B-3
Plasticity Index Test Results

Boring	Depth (ft)	Plasticity Index
B-3	5	Non Plastic
B-7	10	18
B-9	5	36
B-9	7.5	20
B-9	20	Non Plastic
B-9	30	18
B-10	5	23
B-10	15	Non Plastic
B-13	5	29

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Table B-4
Maximum Dry Unit Weight/Optimum Moisture Test Results

Boring	Depth (ft)	Maximum Dry Unit Weight (pcf)	Optimum Moisture (%)
B-8	0-2	139.0	6.5
B-9	0-2	128.0	9.0
B-9	5-7	122.0	10.0
B-10	0-2	128.0	9.0
B-13	0-2	119.0	13.0
B-14	0-2	125.5	8.5

Table B-5
Corrosion Test Results

Boring	Depth (ft)	pH	Sulfate (ppm)	Chloride (ppm)	Resistivity (ohm-cm)
B-1	2.5	7.7	1	121	40,000
B-2	0-2	8.13	10	125	6,400
B-6	0-2	8.45	40	208	2,900
B-13	2.5	8.49	12	63	8,500
B-14	0-2	7.62	607	131	800

Table B-6
R-Value Test Results

Boring	Depth (ft)	R-Value
B-1	0-2	74
B-11	0-2	22
B-12	0-2	20

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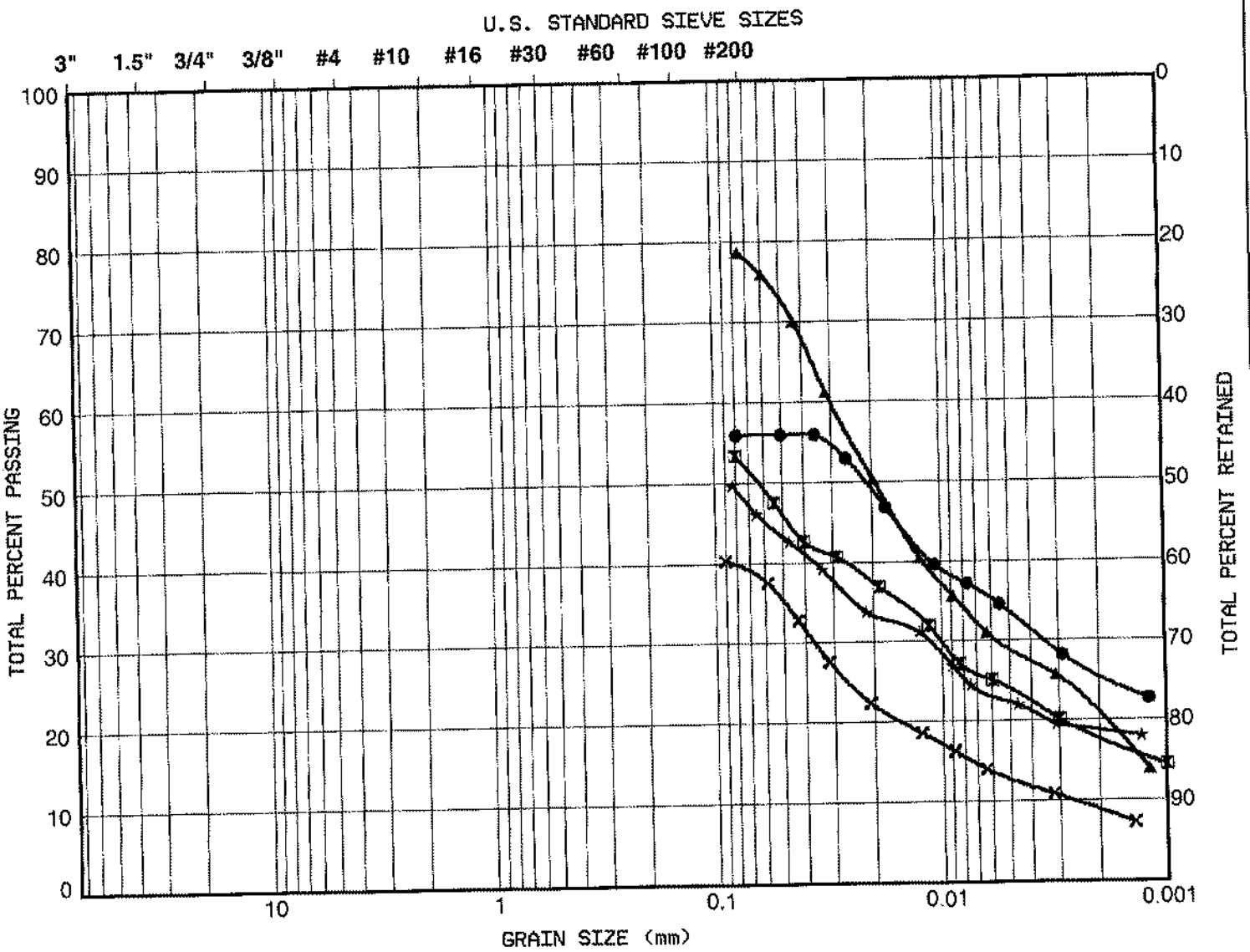
SIEVE ANALYSIS | HYDROMETER



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

Symbol	Sample	Depth (ft)	Description	Classification
●	B-10	5.0	Sandy Clay	CL
⊠	B-10	10.0	Silty Sand	SM
▲	B-14	7.5	Sandy Silt	ML
★	B-14	25.0	Sandy Silt	ML
×	B-3	15.0	Clayey Sand	SC

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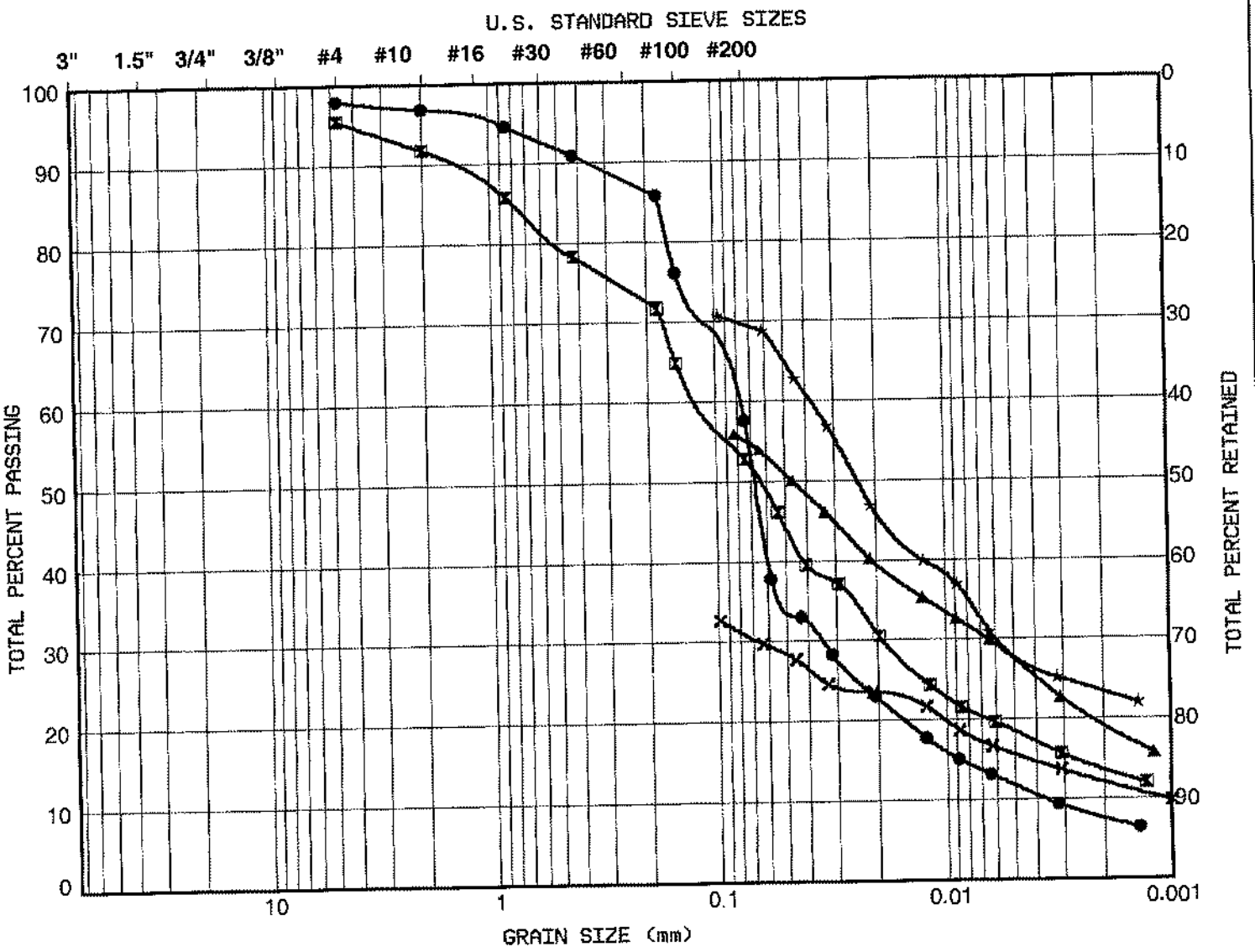
Los Angeles, California

GRAIN SIZE DISTRIBUTION

PLATE

B-1

SIEVE ANALYSIS | HYDROMETER



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

Symbol	Sample	Depth (ft)	Description	Classification
●	B-5	7.5	Silty Sand	SM
⊠	B-6	5.0	Sandy Silt	ML
▲	B-8	30.0	Sandy Clay	CL
★	B-9	5.0	Sandy Clay	CL
×	B-9	10.0	Clayey Sand	SC

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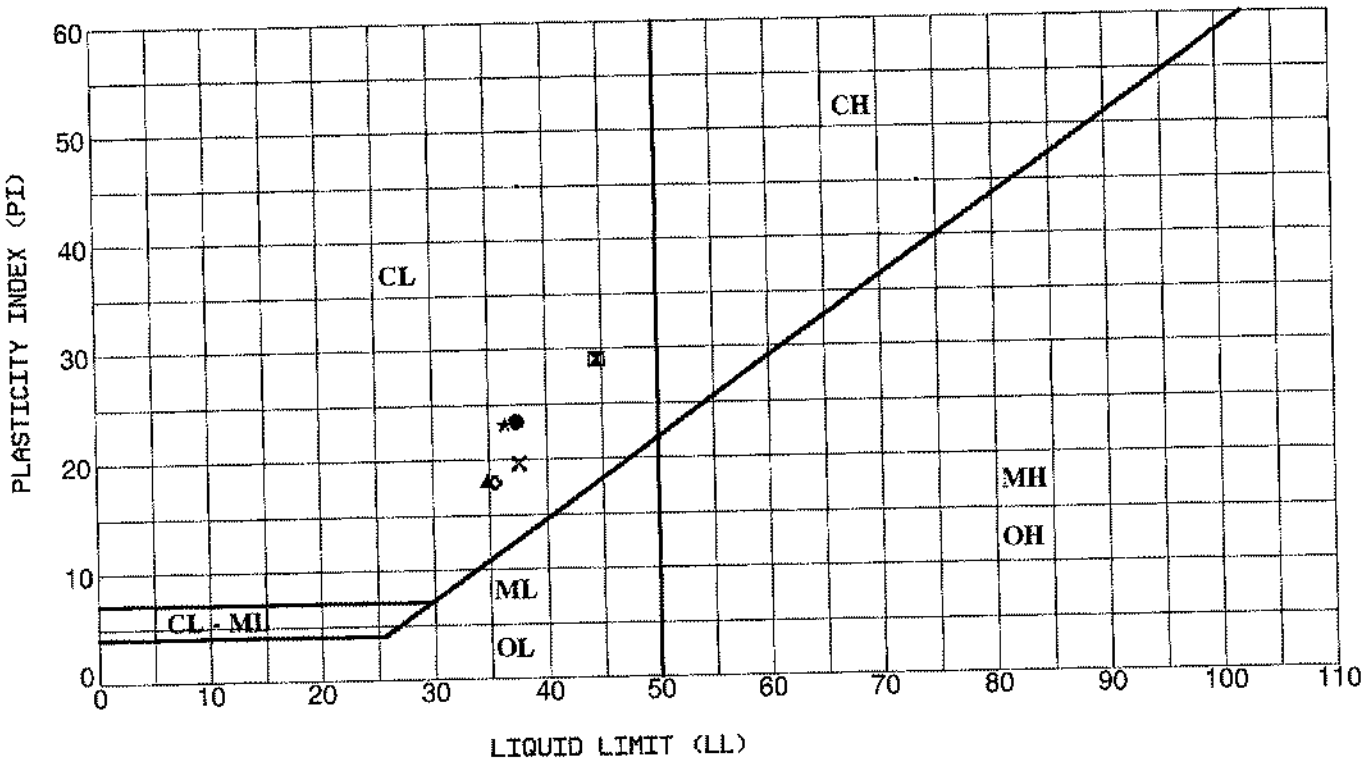
Sheldon-Arleta Landfill
Proposed Athletic Fields
Los Angeles, California

GRAIN SIZE DISTRIBUTION

PLATE

B-2



	Sample	Depth (m)	LL (%)	PL (%)	PI (%)	LI (-)	Description
●	B-10	5.0	37	14	23		Sandy Clay (CL)
⧗	B-13	5.0	45	16	29		Sandy Clay (CL)
▲	B-7	10.0	35	17	18		Sandy Clay (CL)
★	B-9	5.0	36	13	23		Sandy Clay (CL)
✕	B-9	7.5	38	18	20		Sandy Clay (CL)
✿	B-9	30.0	35	18	18		Sandy Clay (CL)

LL - Liquid Limit
PL - Plasticity Limit
PI - Plasticity Index
LI - Liquidity Index
NP - Non Plastic

Unified Soil Classification

Fine Grained Soil Groups

	LL < 50
ML	Inorganic clayey silts to very fine sands of slight plasticity
CL	Inorganic clays of low to medium plasticity
OL	Organic silts and organic silty clays of low plasticity

	LL > 50
MH	Inorganic silts and clayey silts of high plasticity
CH	Inorganic clays of high plasticity
OH	Organic clays of medium to high plasticity, organic silts

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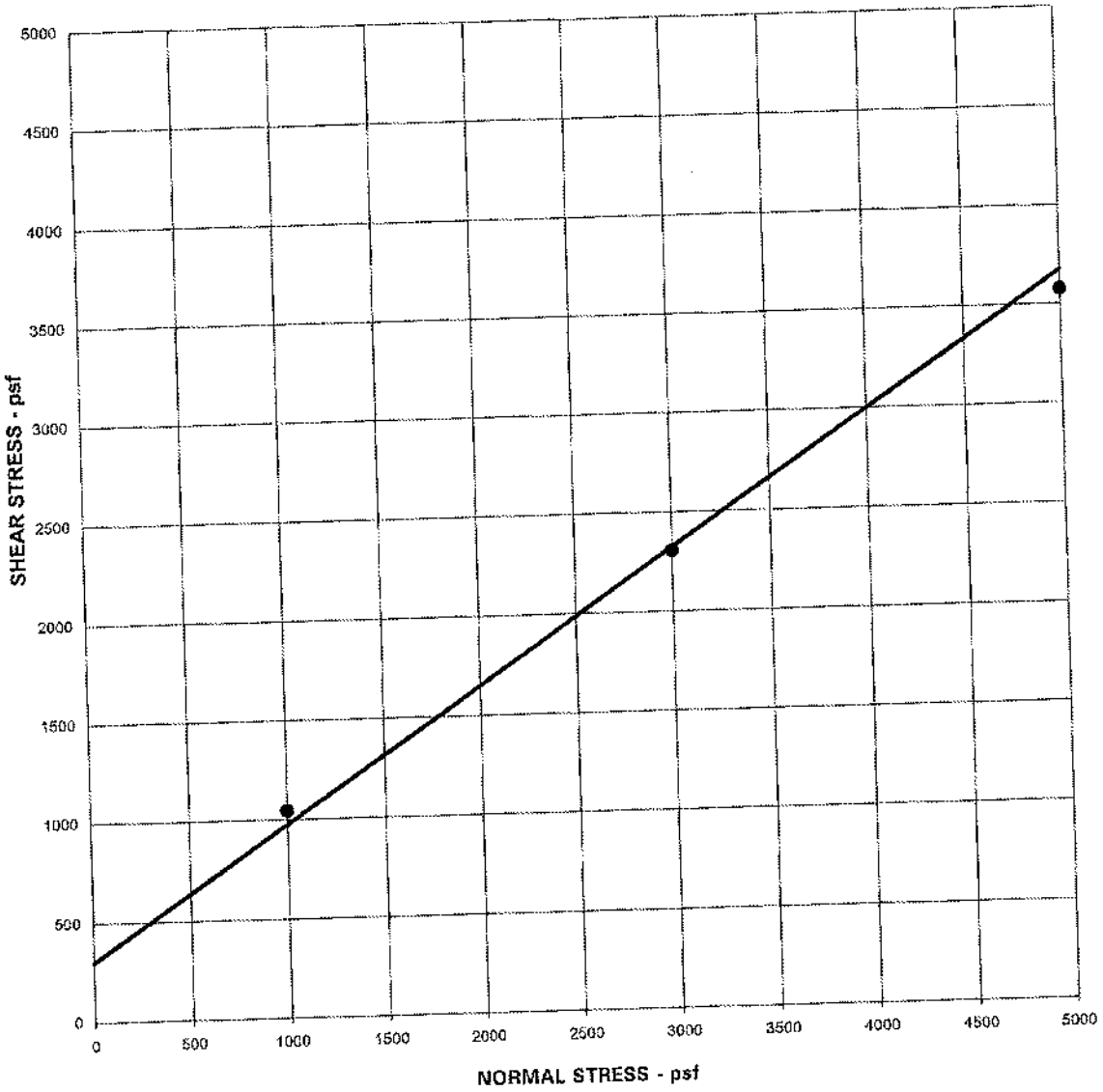
PLASTICITY CHART

PLATE

B-3



Test Type	Controlled - strain test		
Rate of Shear- in/min	0.02		
Normal Stress - psf	1000	3000	5000
Maximum Shear- psf	1044	2304	3576
Shear Strain- %			

Sample/Boring No.	B-8
Depth - ft	0-2
Friction Angle -deg	34
Cohesion - psf	300
Description	Silty Sand
Classification	SM

Sample remolded and compacted to 90% of Maximum Dry Density
Maximum Dry Density = 130 pcf, Optimum Moisture Content = 6.5%
Test Sample: Dry Density = 117 pcf, Moisture Content = 6%
Moisture content after test = 11.2 %

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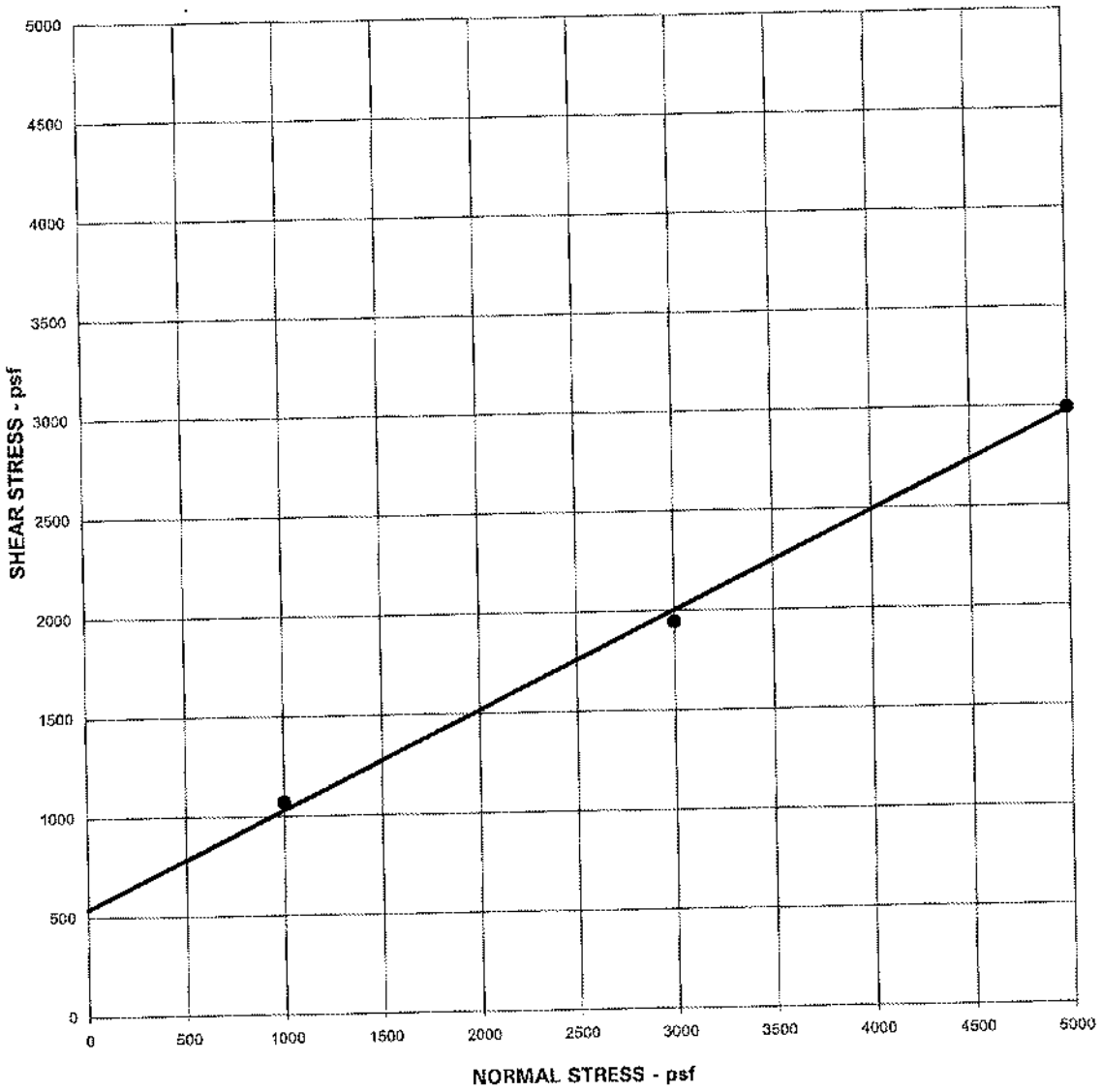
DIRECT SHEAR TEST

PLATE

B-4

B-8 R4 Direct Shear.xls



Test Type	Controlled - strain test		
Rate of Shear- in/min	0.02		
Normal Stress - psf	1000	3000	5000
Maximum Shear- psf	1068	1944	2988
Shear Strain- %			

Sample/Boring No.	B-9
Depth - ft	5-7
Friction Angle -deg	26
Cohesion - psf	540
Description	Sandy Clay
Classification	CL

Sample remolded and compacted to 90% of Maximum Dry Density
Maximum Dry Density = 122 pcf, Optimum Moisture Content = 10%
Test Sample: Dry Density = 110 pcf, Moisture Content = 9.2%
Moisture content after test = 11.9 %

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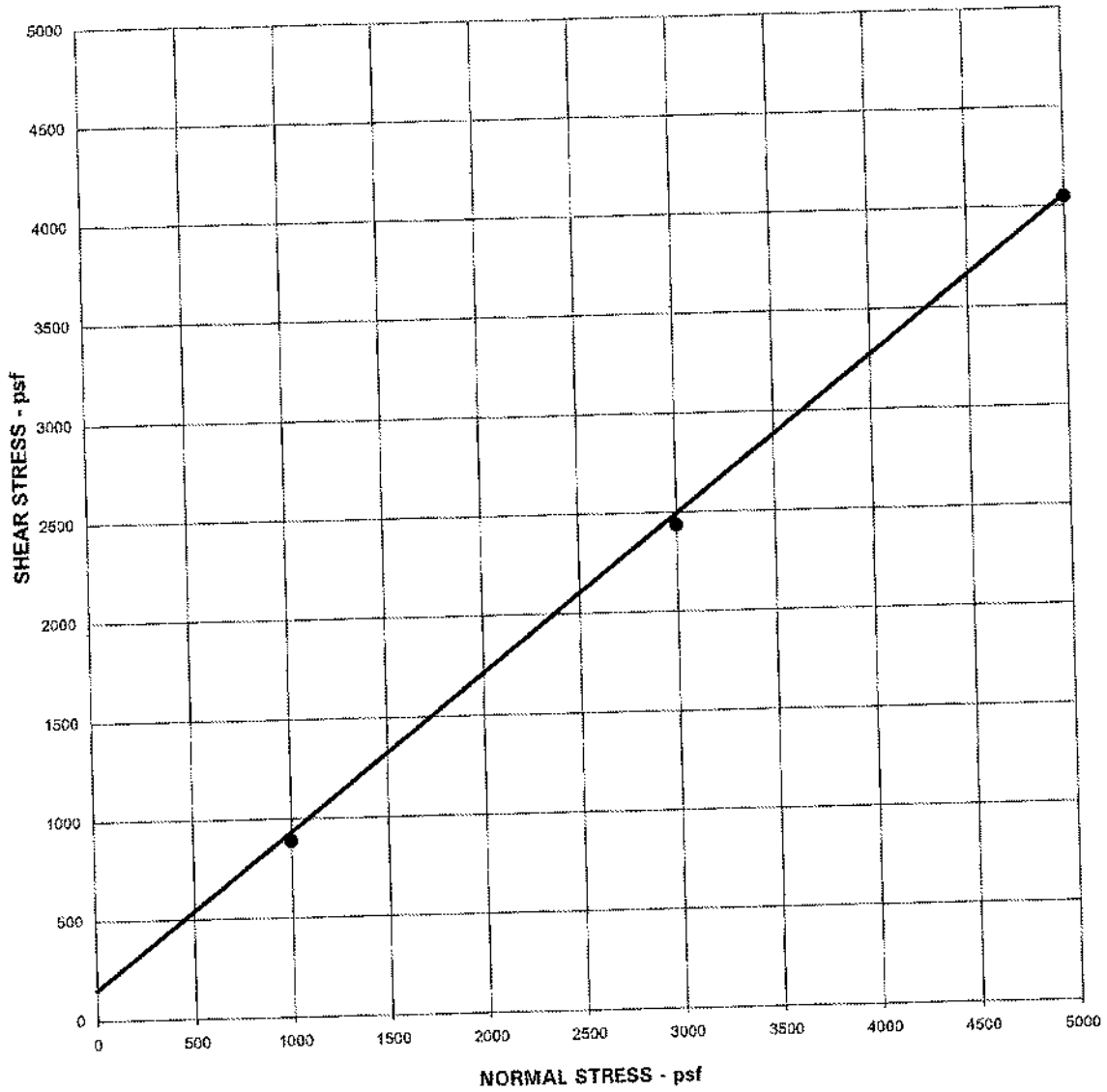
DIRECT SHEAR TEST

PLATE **B-5**

PROJECT NO. **39117** Date: Feb-2004

B-9 RM Direct Shear.xls



Test Type	Controlled - strain test		
Rate of Shear- in/min	0.02		
Normal Stress - psf	1000	3000	5000
Maximum Shear- psf	888	2436	4044
Shear Strain- %			

Sample/Boring No.	B-10
Depth - ft	0-2
Friction Angle -deg	38
Cohesion - psf	150
Description	Gravelly Sandy Silt
Classification	ML

Sample remolded and compacted to 90% of Maximum Dry Density
Maximum Dry Density = 128.5 pcf, Optimum Moisture Content = 9%
Test Sample: Dry Density = 116 pcf, Moisture Content = 8.6%
Moisture content after test = 16.5 %

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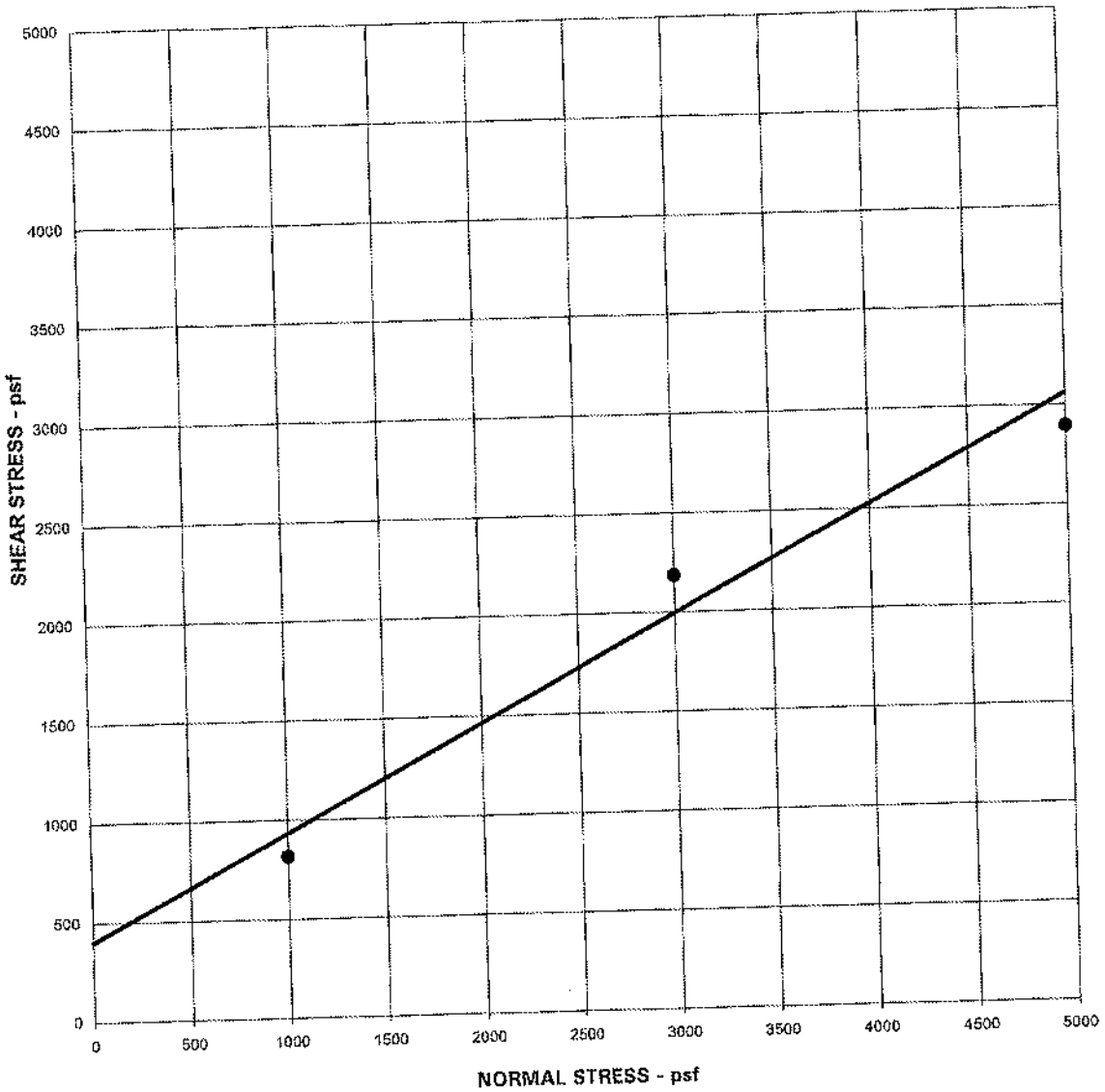
DIRECT SHEAR TEST

PLATE

B-6



Test Type	Controlled - strain test		
Rate of Shear- in/min	0.02		
Normal Stress - psf	1000	3000	5000
Maximum Shear- psf	816	2184	2892
Shear Strain- %			

Sample/Boring No.	B-13
Depth - ft	0-2
Friction Angle -deg	28
Cohesion - psf	400
Description	Sandy Silt
Classification	ML

Sample remolded and compacted to 90% of Maximum Dry Density
Maximum Dry Density = 119 pcf, Optimum Moisture Content = 13 %
Test Sample: Dry Density = 108 pcf, Moisture Content = 13.1%
Moisture content after test = 33.5 %

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Proposed Athletic Fields
Sheldon-Arleta Landfill
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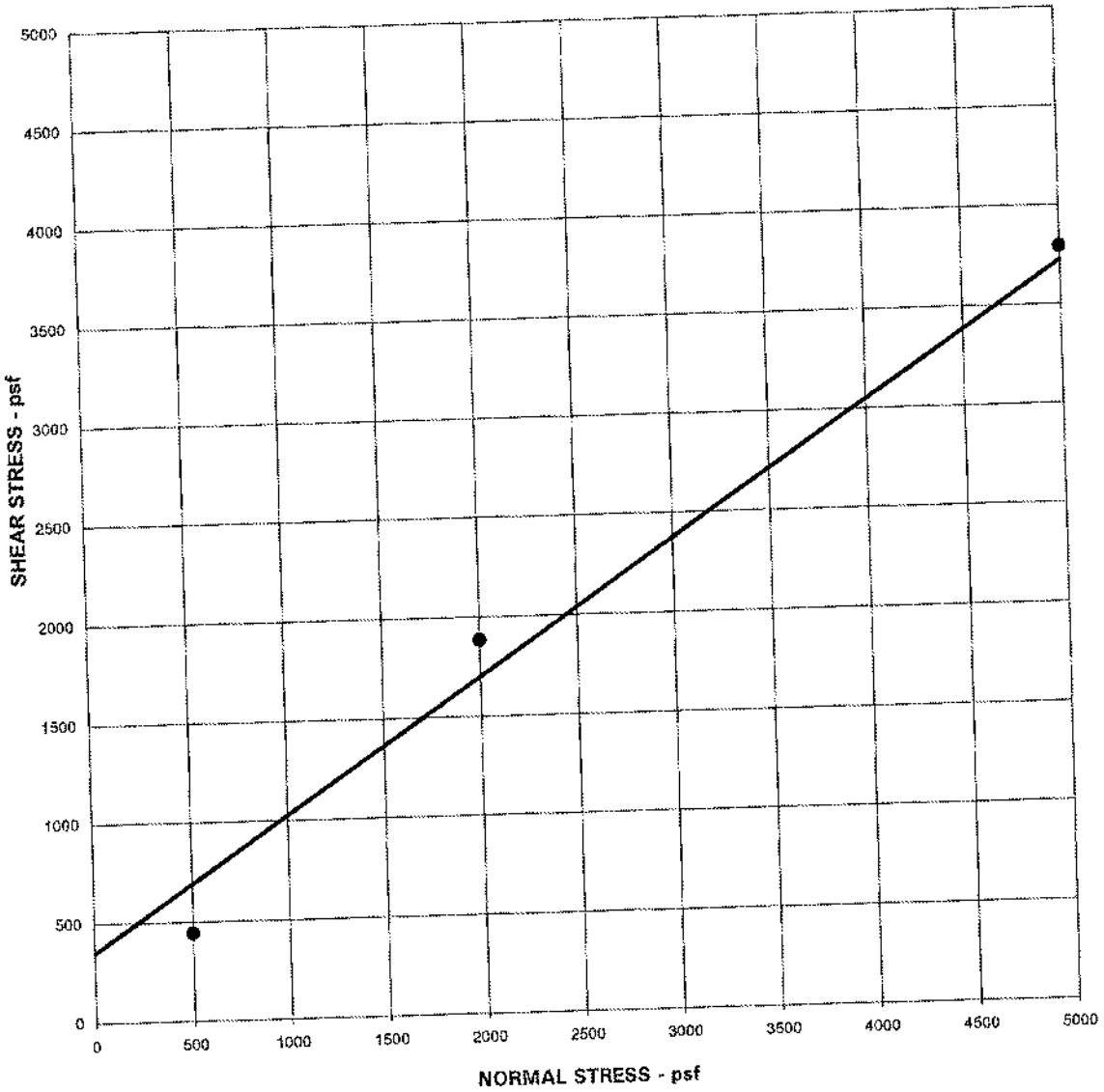
DIRECT SHEAR TEST

PLATE

B-7



Test Type	Controlled - strain test		
Rate of Shear- in/mln	0.02		
Normal Stress - psf	500	2000	5000
Maximum Shear- psf	444	1884	3792
Shear Strain- %			

Sample/Boring No.	B-13
Depth - ft	5
Friction Angle -deg	34
Cohesion - psf	350
Description	Sandy Silt
Classification	ML

Test Sample: Dry Density = 112 pcf, Moisture Content = 8.2 %
Moisture content after test = 20.5 %

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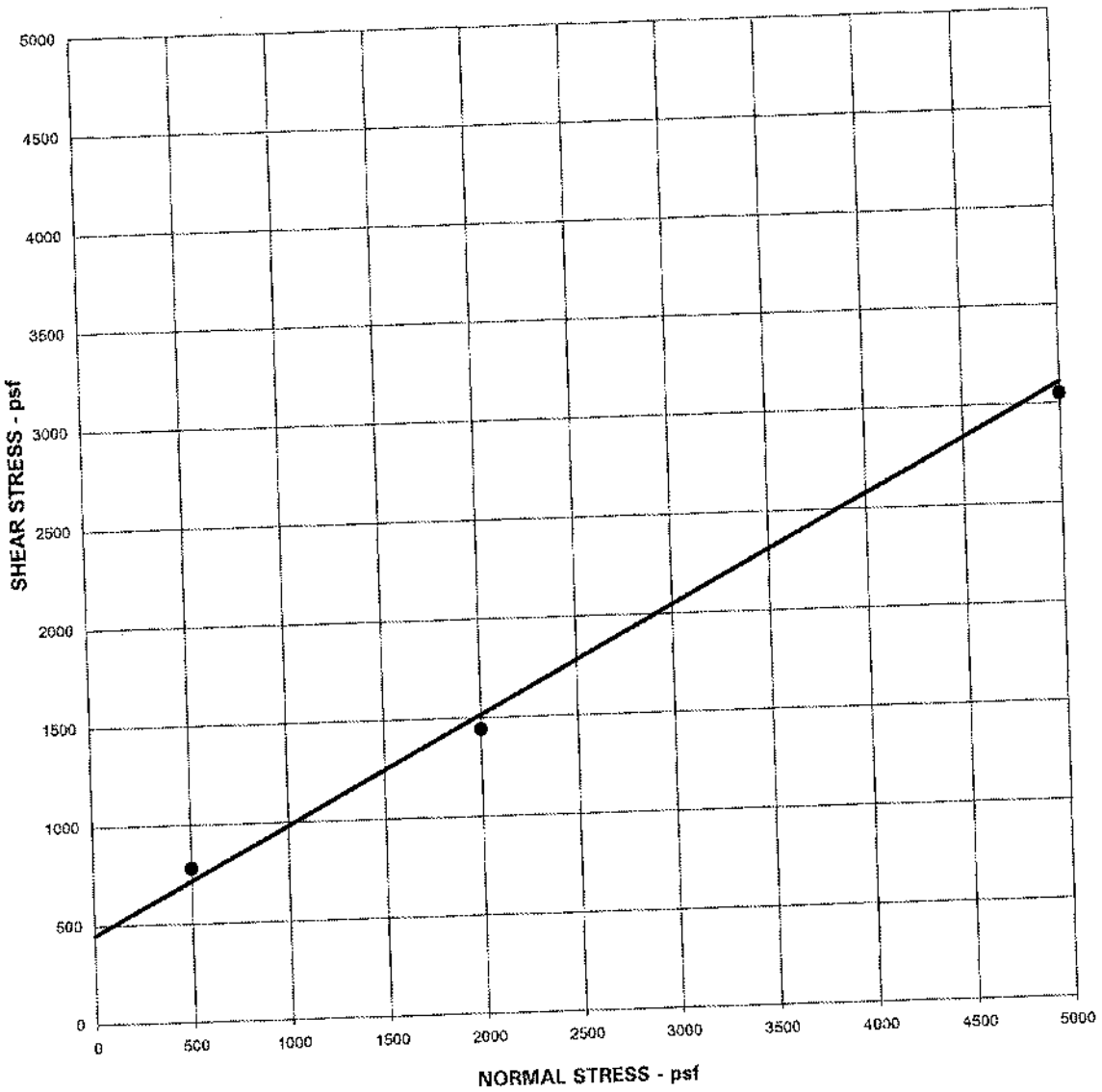
Proposed Athletic Fields
Sheldon-Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-8

B-13-5Direc-Shear.xls



Test Type	Controlled - strain test		
Rate of Shear- in/min	0.02		
Normal Stress - psf	500	2000	5000
Maximum Shear- psf	780	1440	3048
Shear Strain- %			

Sample/Boring No.	B-14
Depth - ft	5
Friction Angle -deg	28
Cohesion - psf	450
Description	Sandy Silt
Classification	ML

Test Sample: Dry Density = 109 pcf, Moisture Content = 12.7 %
Moisture content after test = 27.8 %

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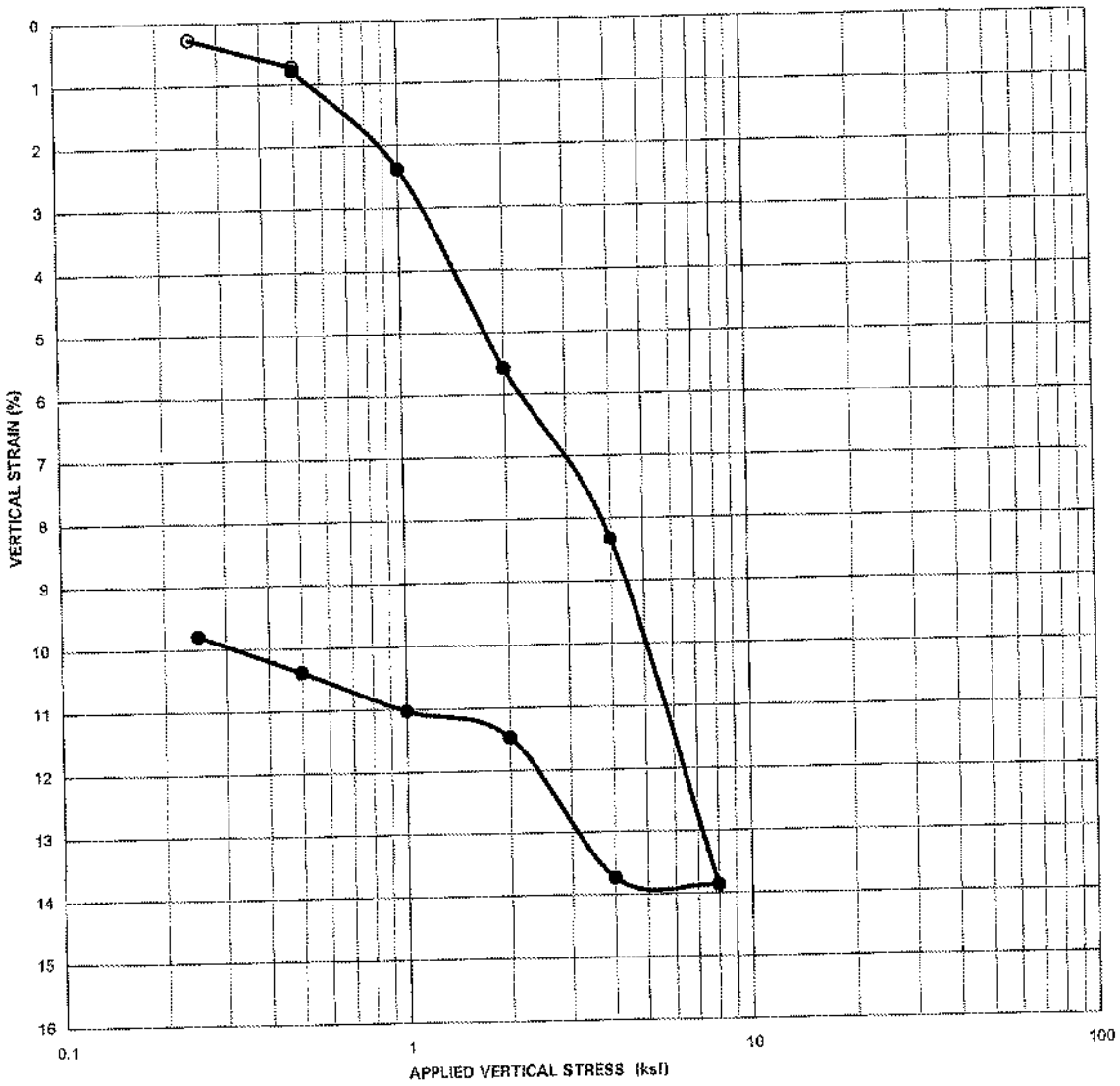
Proposed Athletic Fields
Sheldon-Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-9

B-14-5Direct Shear.xls



Boring No.	B-3
Depth (feet)	10
Soil Classification	Clayey Sand
Water Added at	0.5 ksf
Initial Dry Unit Weight (pcf)	120
Initial Moisture Content (%)	15.1
Final Moisture Content (%)	15.8

KLEINFELDER

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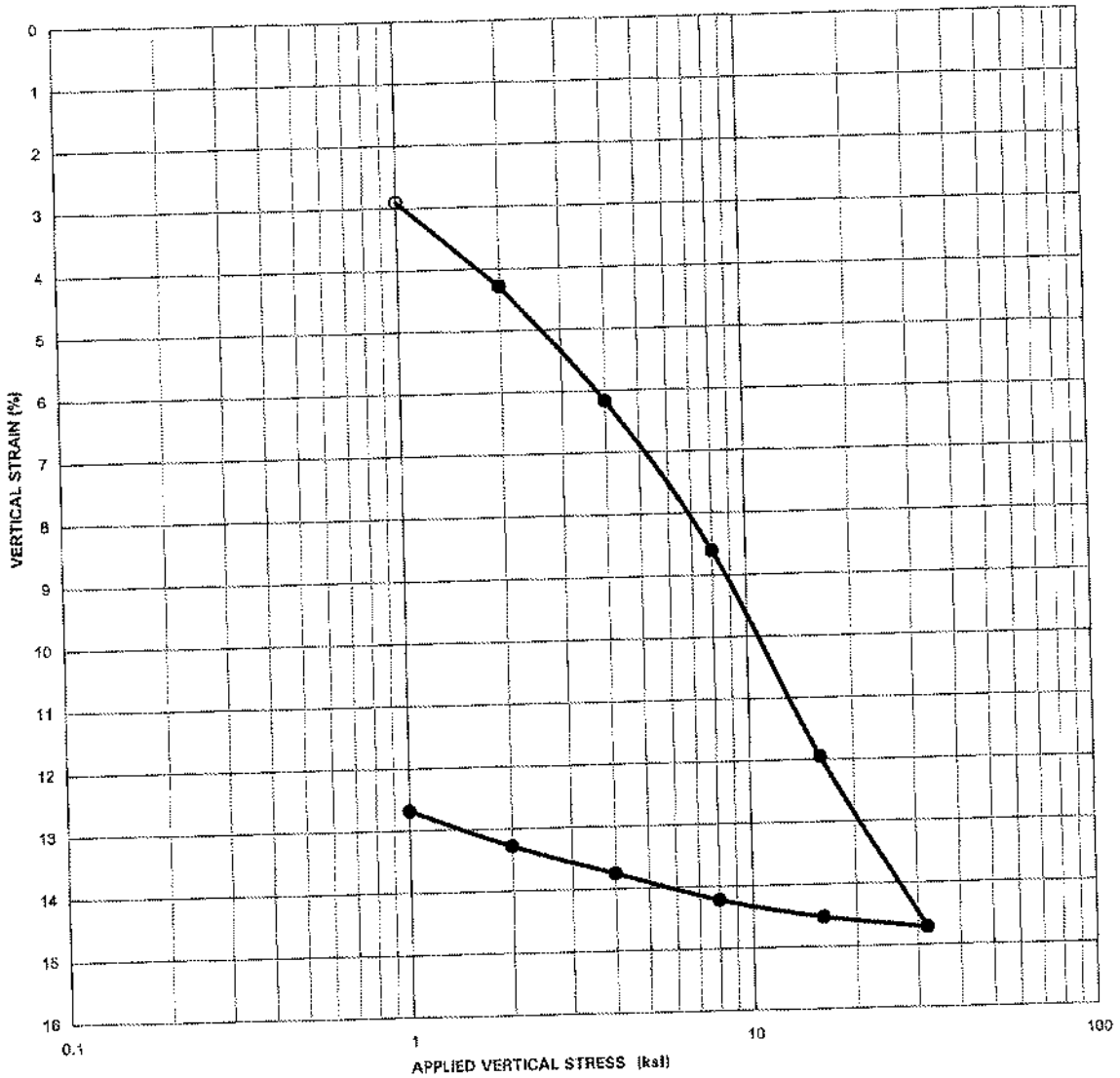
Proposed Athletic Fields
Sheldon-Arleta Landfill
Los Angeles, California
CONSOLIDATION TEST

PLATE

B-10



Boring No.	B-4
Depth (feet)	5
Soil Classification	Silty Sand
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	112
Initial Moisture Content (%)	8.8
Final Moisture Content (%)	17.5

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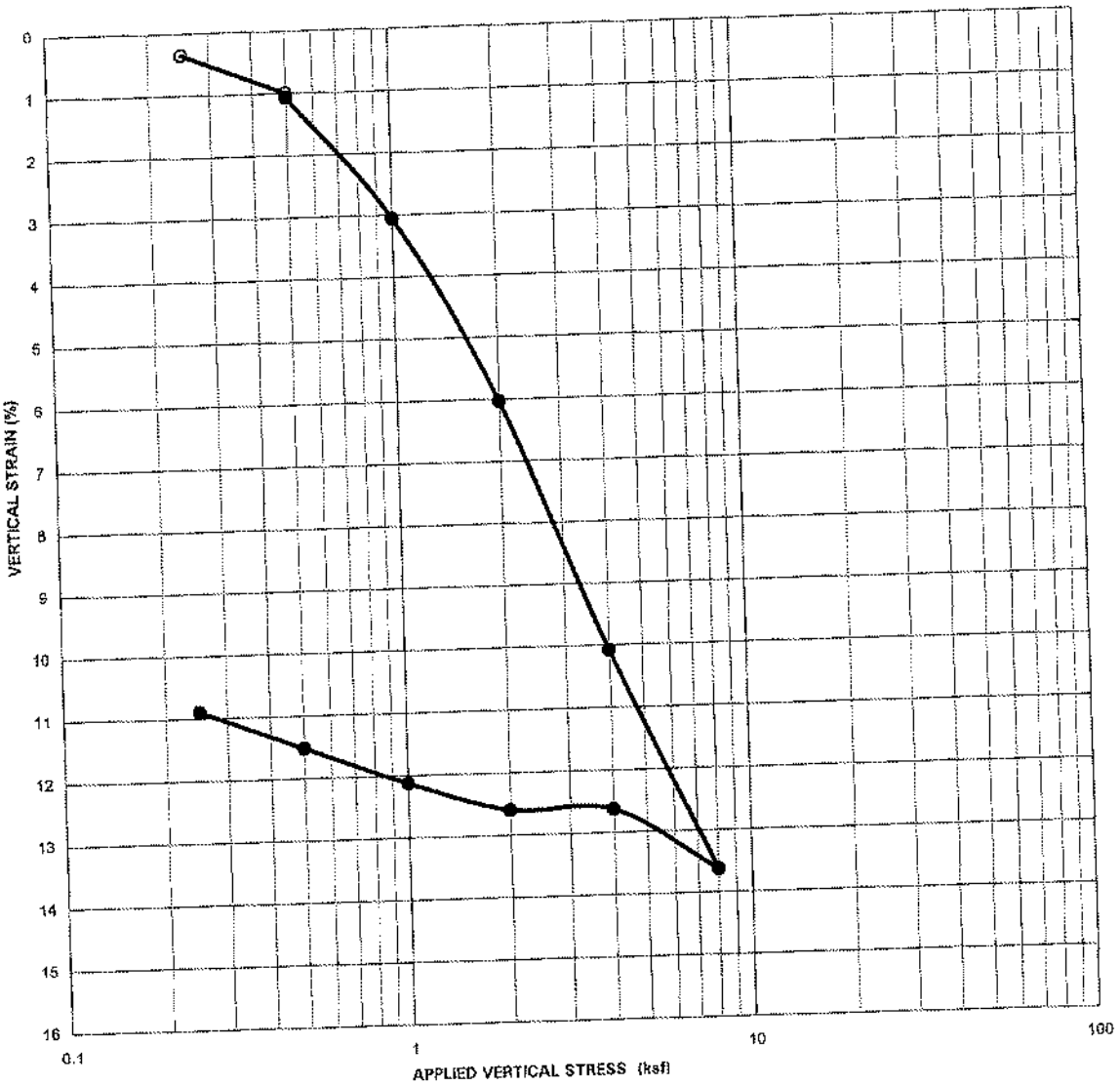
Proposed Athletic Fields
Sheldon-Arleta Landfill
Los Angeles, California
CONSOLIDATION TEST

PLATE

B-11



Boring No.	B-5
Depth (feet)	10
Soil Classification	Silty Sand
Water Added at	0.5 ksf
Initial Dry Unit Weight (pcf)	98
Initial Moisture Content (%)	17.8
Final Moisture Content (%)	18.3

KLEINFELDER

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Proposed Athletic Fields
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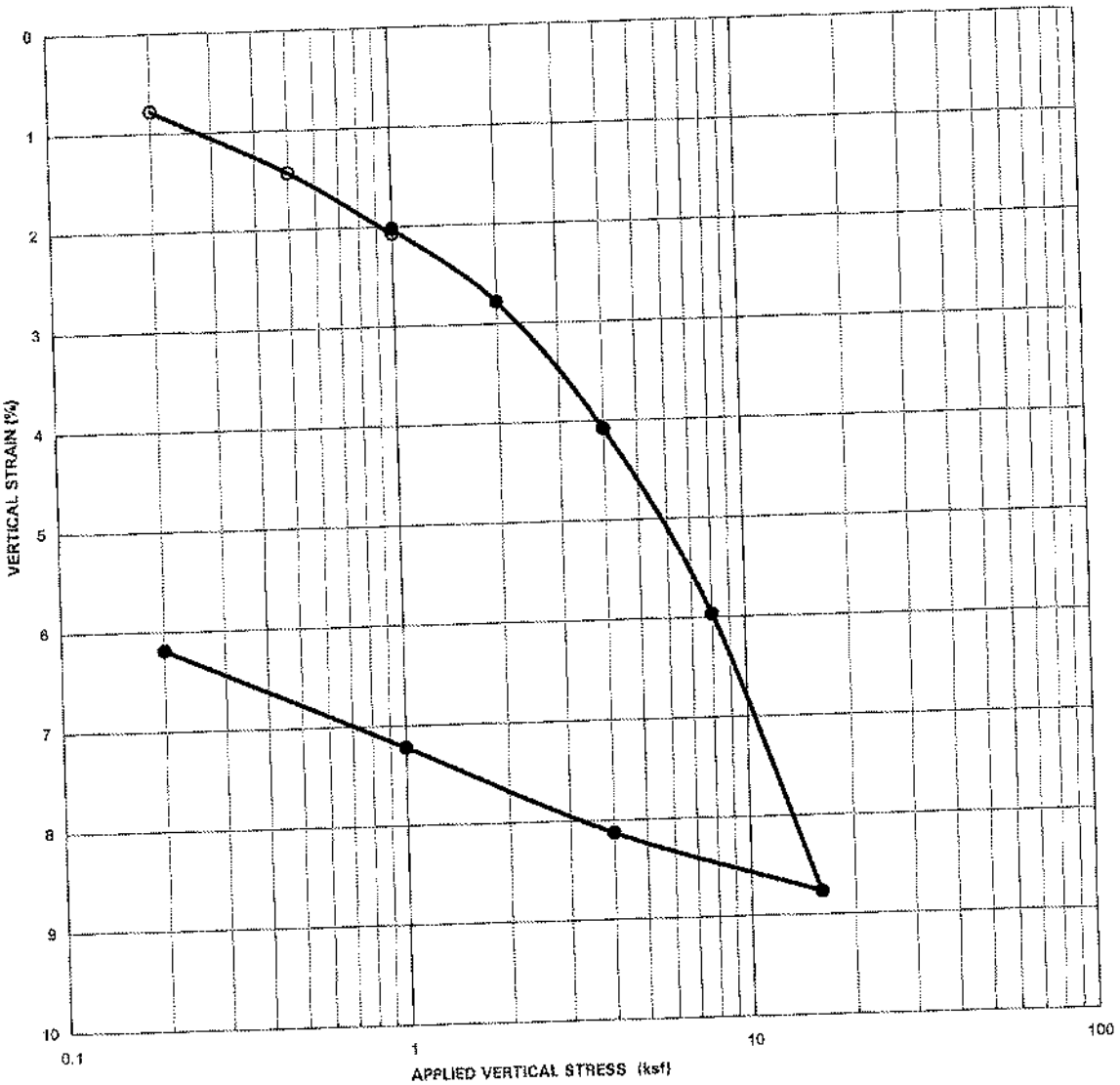
CONSOLIDATION TEST

PLATE

B-12



Boring No.	B-7
Depth (feet)	10
Soil Classification	Sandy Clay
Water Added at	1 ksf
Initial Dry Unit Weight (pcf)	112
Initial Moisture Content (%)	10.4
Final Moisture Content (%)	18.7

KLEINFELDER

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Proposed Athletic Fields
Sheldon-Arleta Landfill
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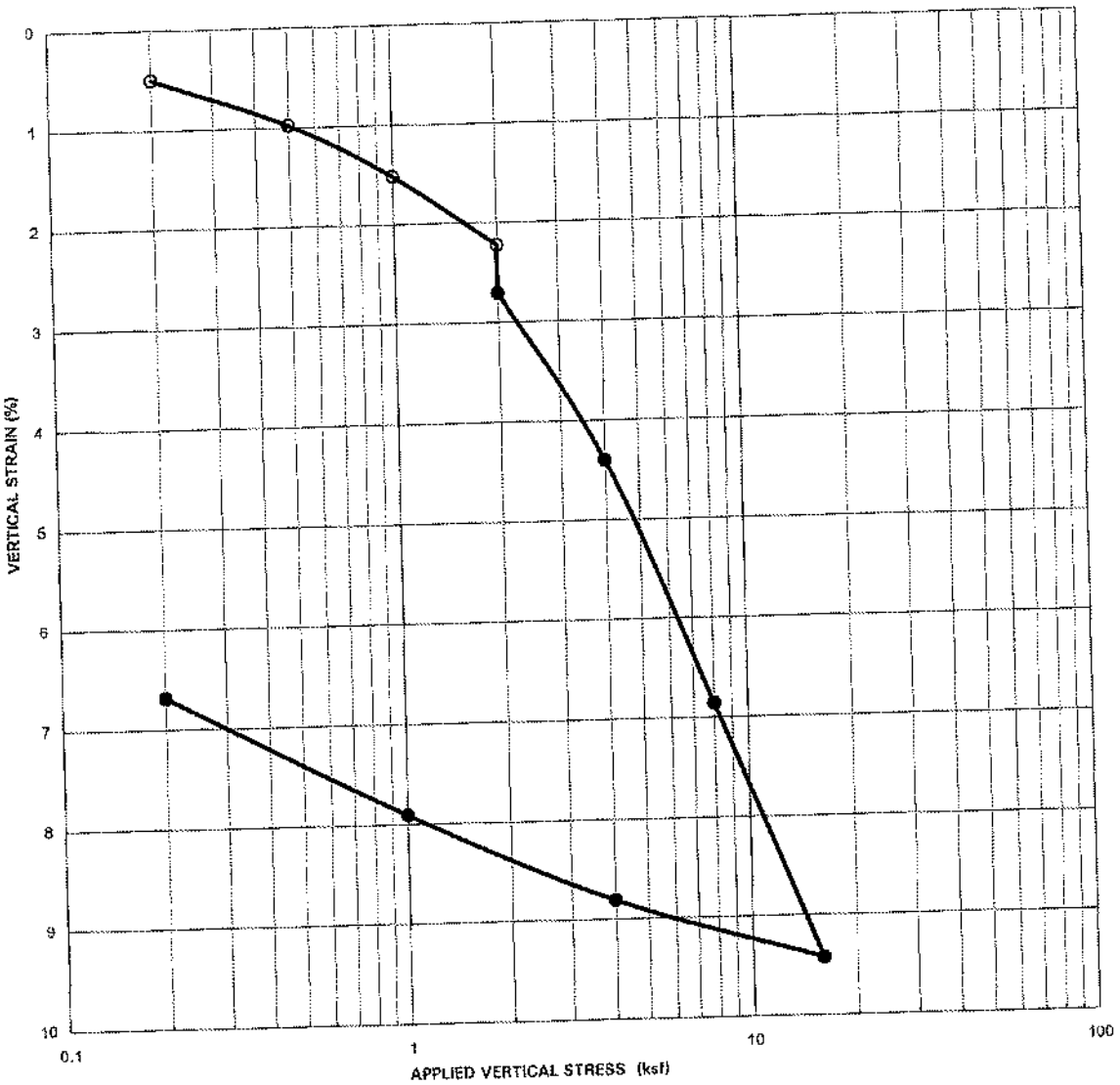
CONSOLIDATION TEST

PLATE

B-13



Boring No.	B-7
Depth (feet)	20
Soil Classification	Sandy Clay
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	108
Initial Moisture Content (%)	10.1
Final Moisture Content (%)	19.1

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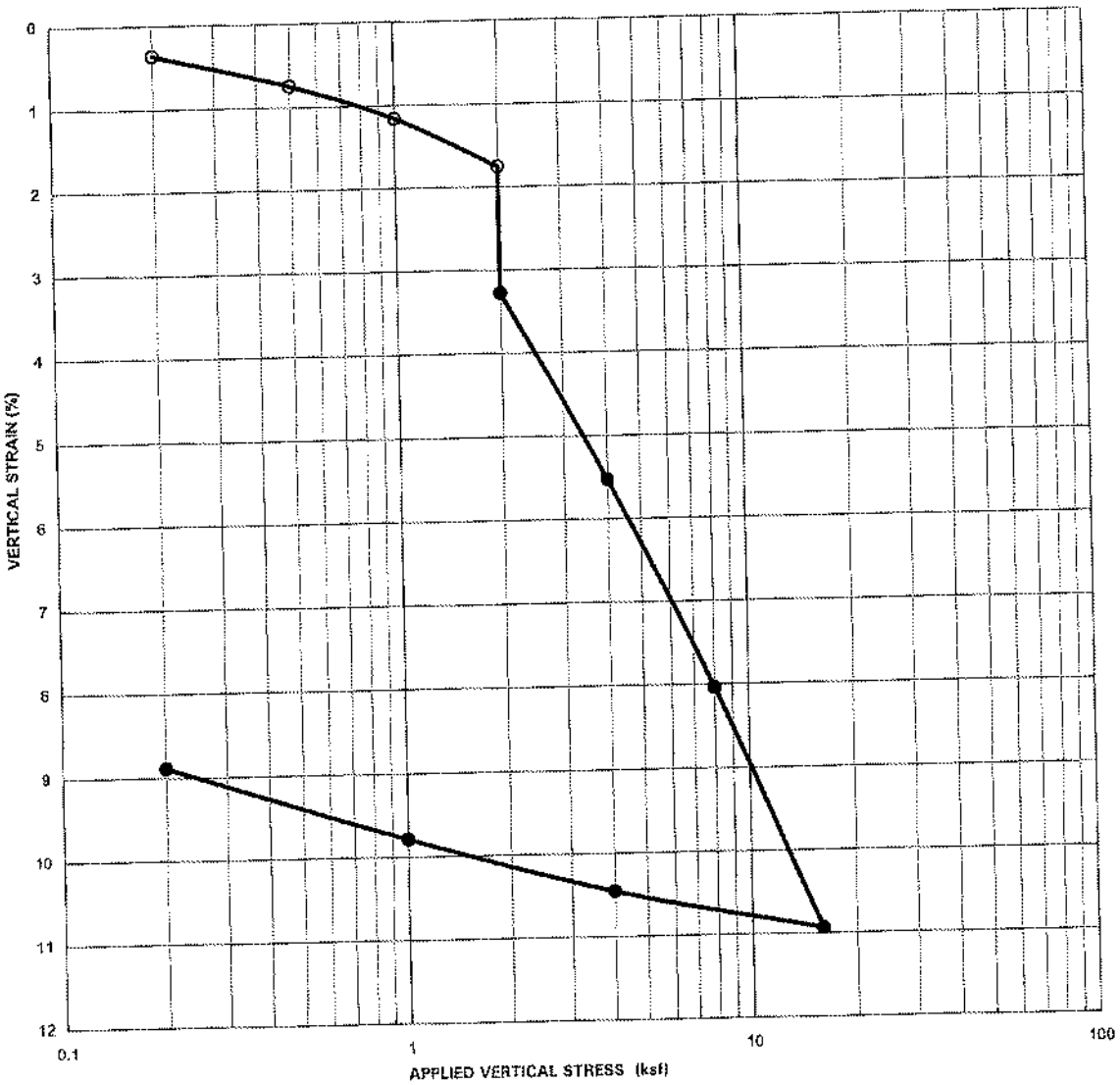
CONSOLIDATION TEST

PLATE

B-14



Boring No.	B-8
Depth (feet)	15
Soil Classification	Silty Sand
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	115
Initial Moisture Content (%)	7.5
Final Moisture Content (%)	15.6

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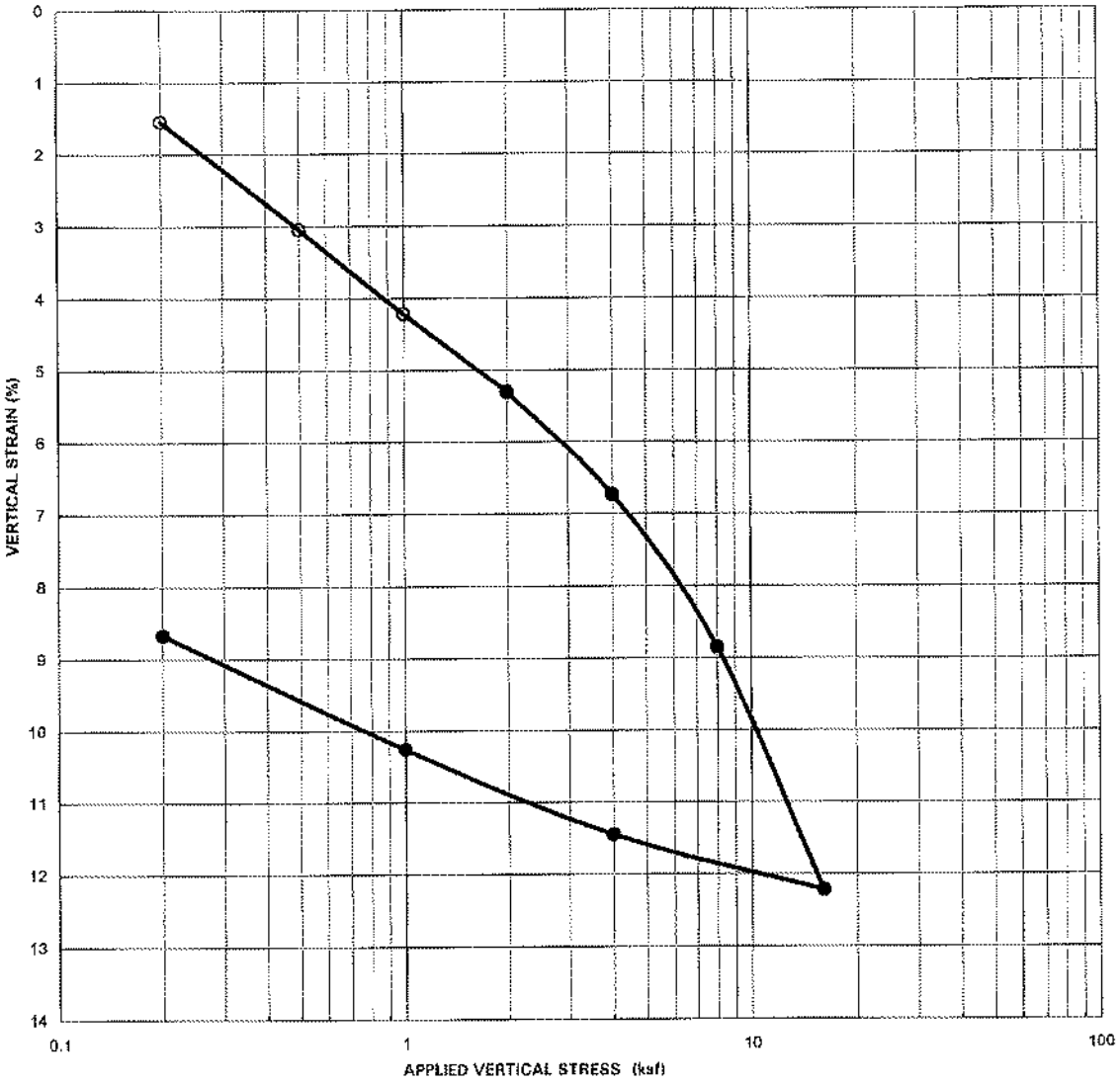
PLATE

B-15



Boring No.	B-8
Depth (feet)	20
Soil Classification	Silty Sand
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	112
Initial Moisture Content (%)	13.9
Final Moisture Content (%)	20.8

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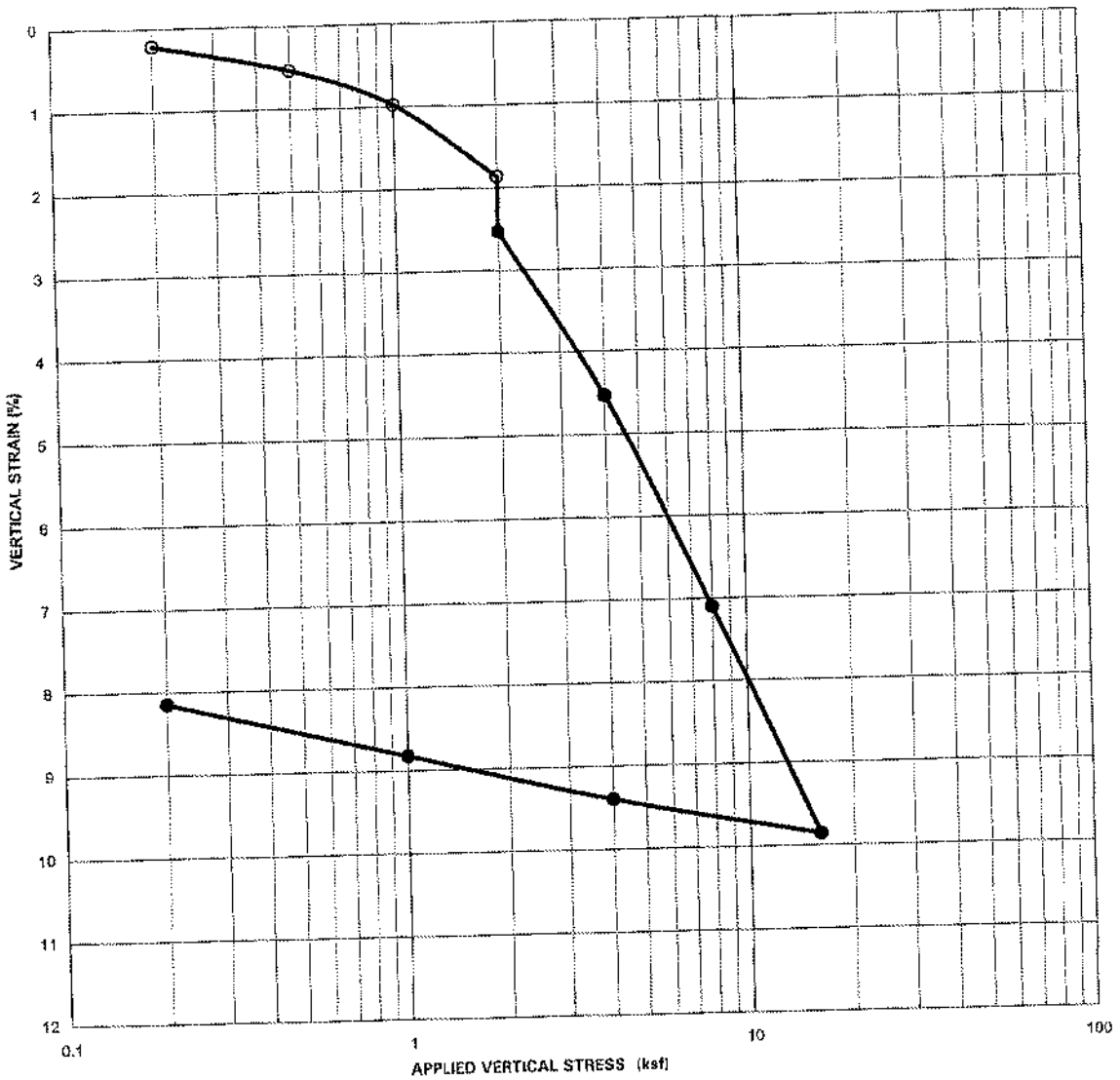
PLATE

B-16



Boring No.	B-9
Depth (feet)	20
Soil Classification	Sandy Silt
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	105
Initial Moisture Content (%)	8.9
Final Moisture Content (%)	20.5

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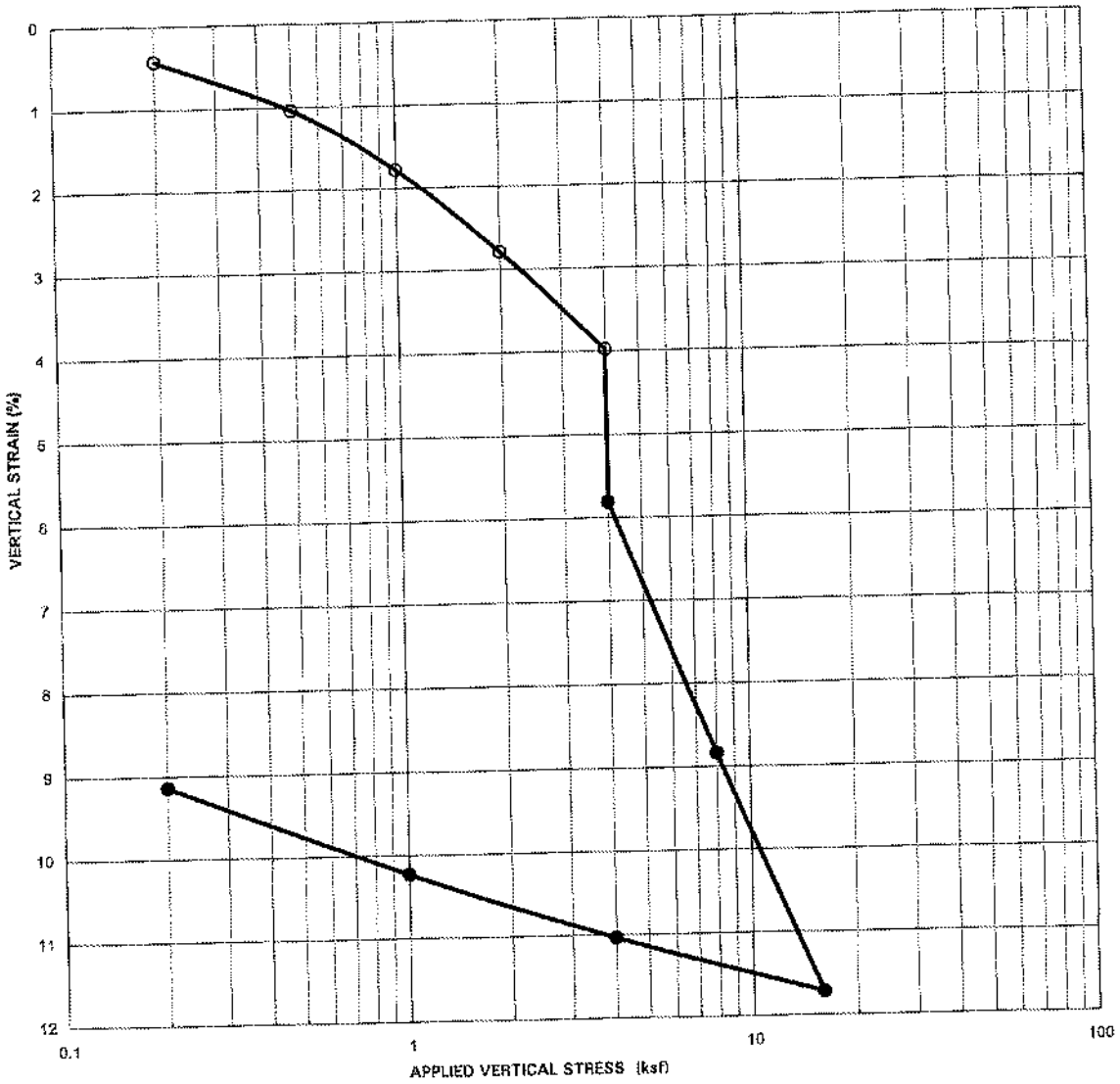
PLATE

B-17



Boring No.	B-9
Depth (feet)	40
Soil Classification	Sandy Silt
Water Added at	4 ksf
Initial Dry Unit Weight (pcf)	107
Initial Moisture Content (%)	8.8
Final Moisture Content (%)	18.8

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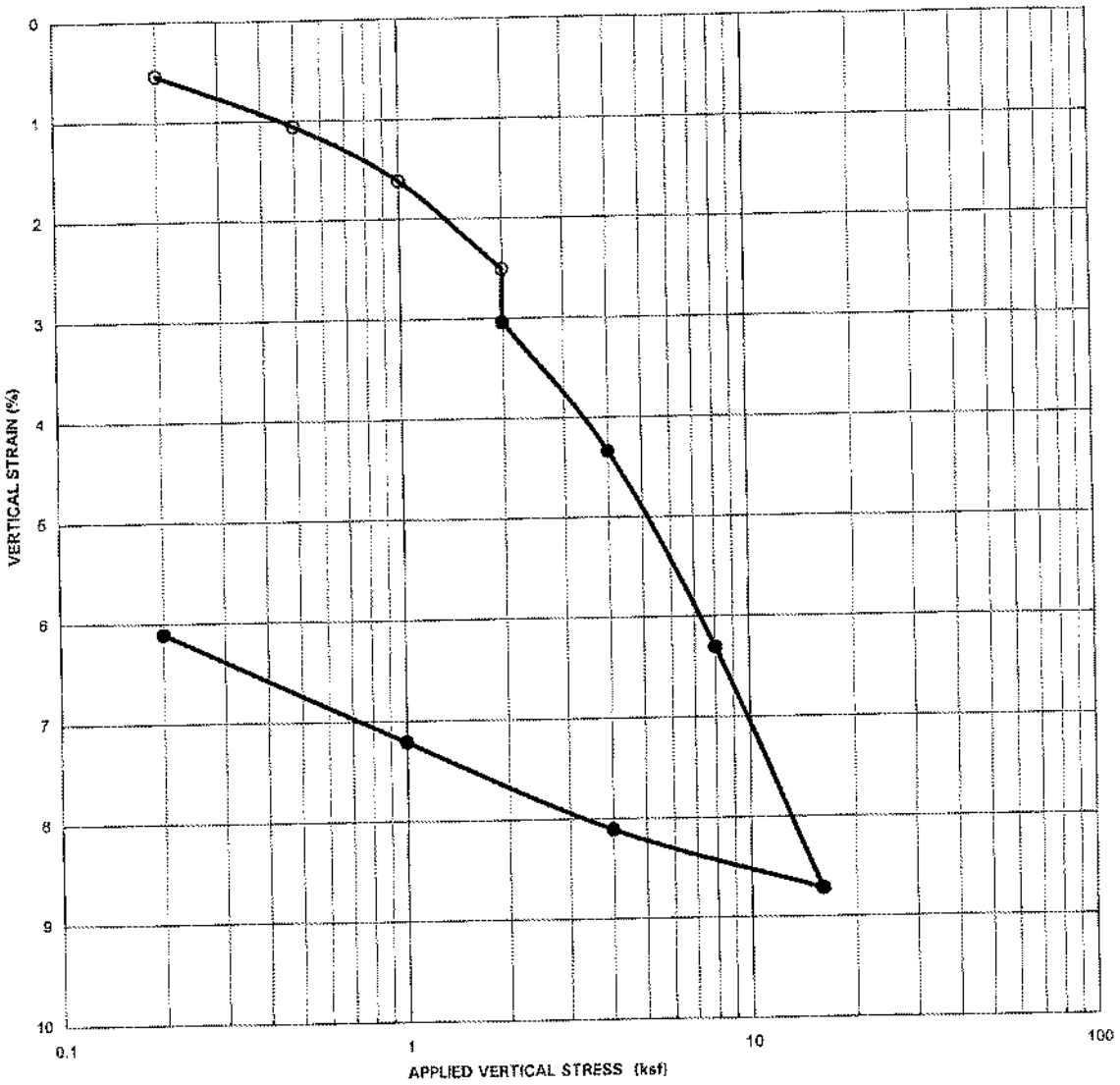
PLATE

B-18



Boring No.	B-10
Depth (feet)	20
Soil Classification	Silty Sand
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	116
Initial Moisture Content (%)	9
Final Moisture Content (%)	16.9

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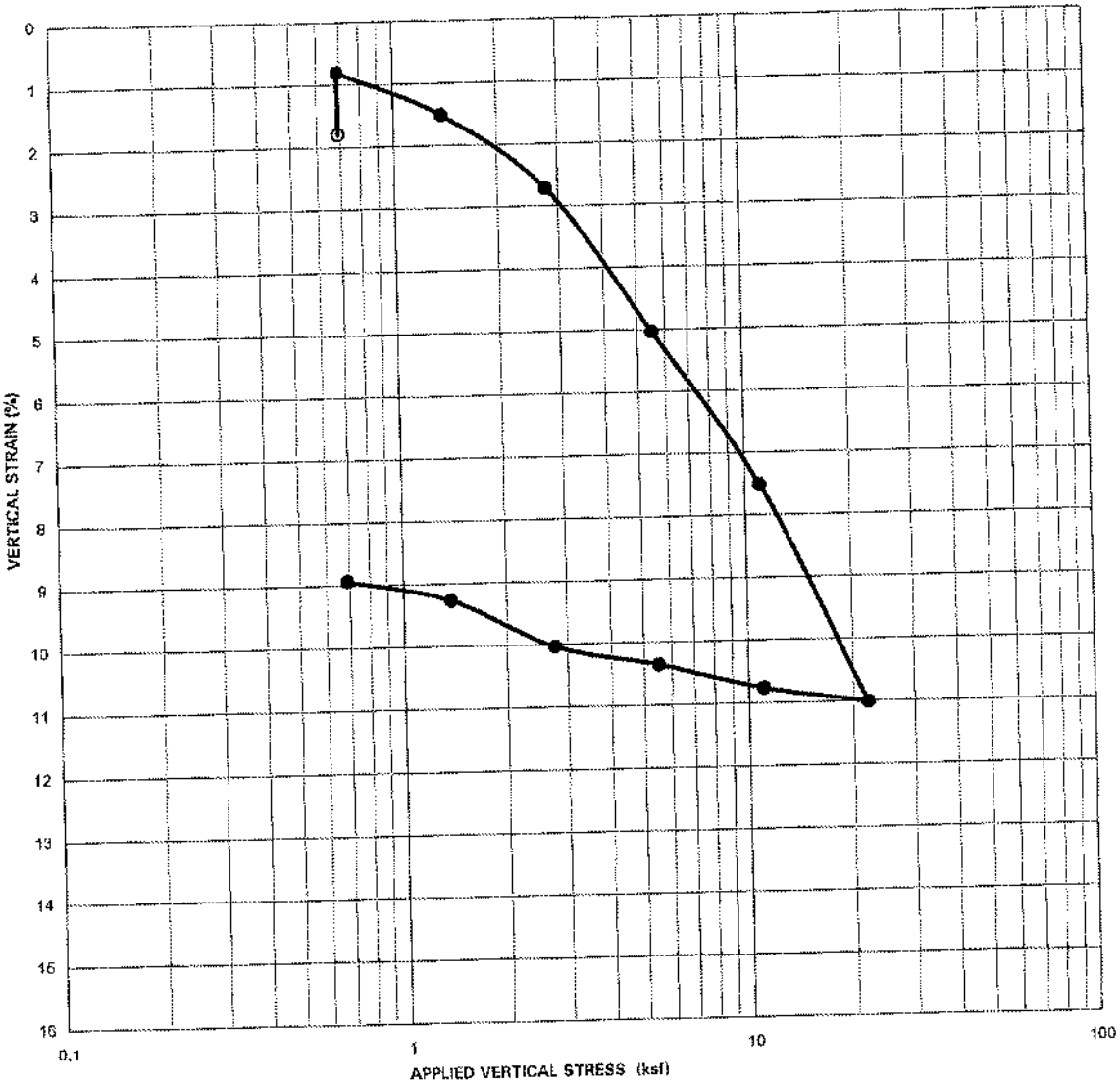
PLATE

B-19



Sample remolded and compacted to 90% of Maximum Dry Density
Maximum Dry Density = 119 pcf, Optimum Moisture Content = 13 %

Boring No.	B-13
Depth (feet)	0-2
Soil Classification	Sandy Silt
Water Added at	0.69 ksf
Initial Dry Unit Weight (pcf)	108
Initial Moisture Content (%)	13.1
Final Moisture Content (%)	16.7

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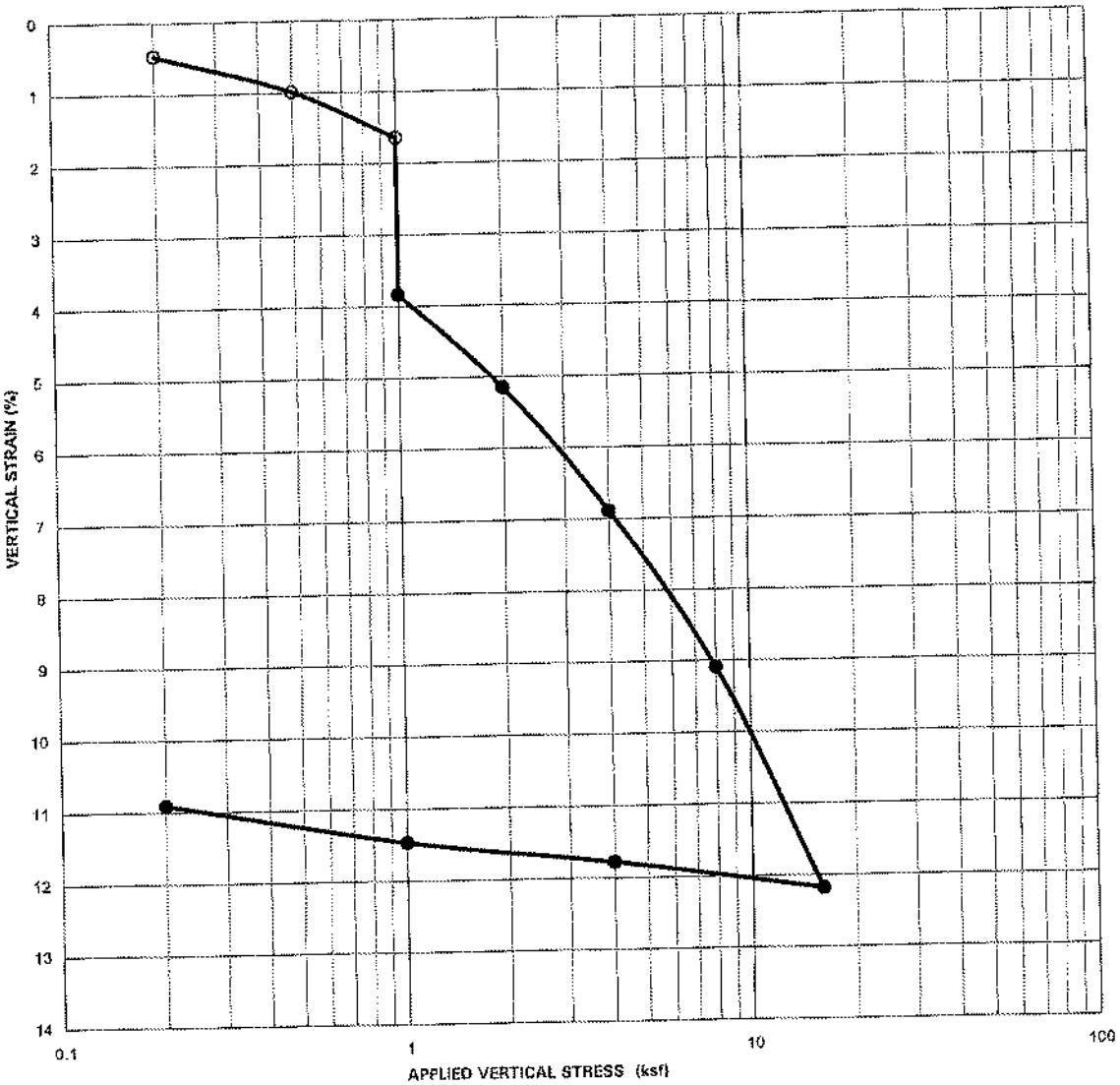
PLATE

B-20



Boring No.	B-13
Depth (feet)	10
Soil Classification	Silty Sand
Water Added at	1 ksf
Initial Dry Unit Weight (pcf)	115
Initial Moisture Content (%)	4.5
Final Moisture Content (%)	13

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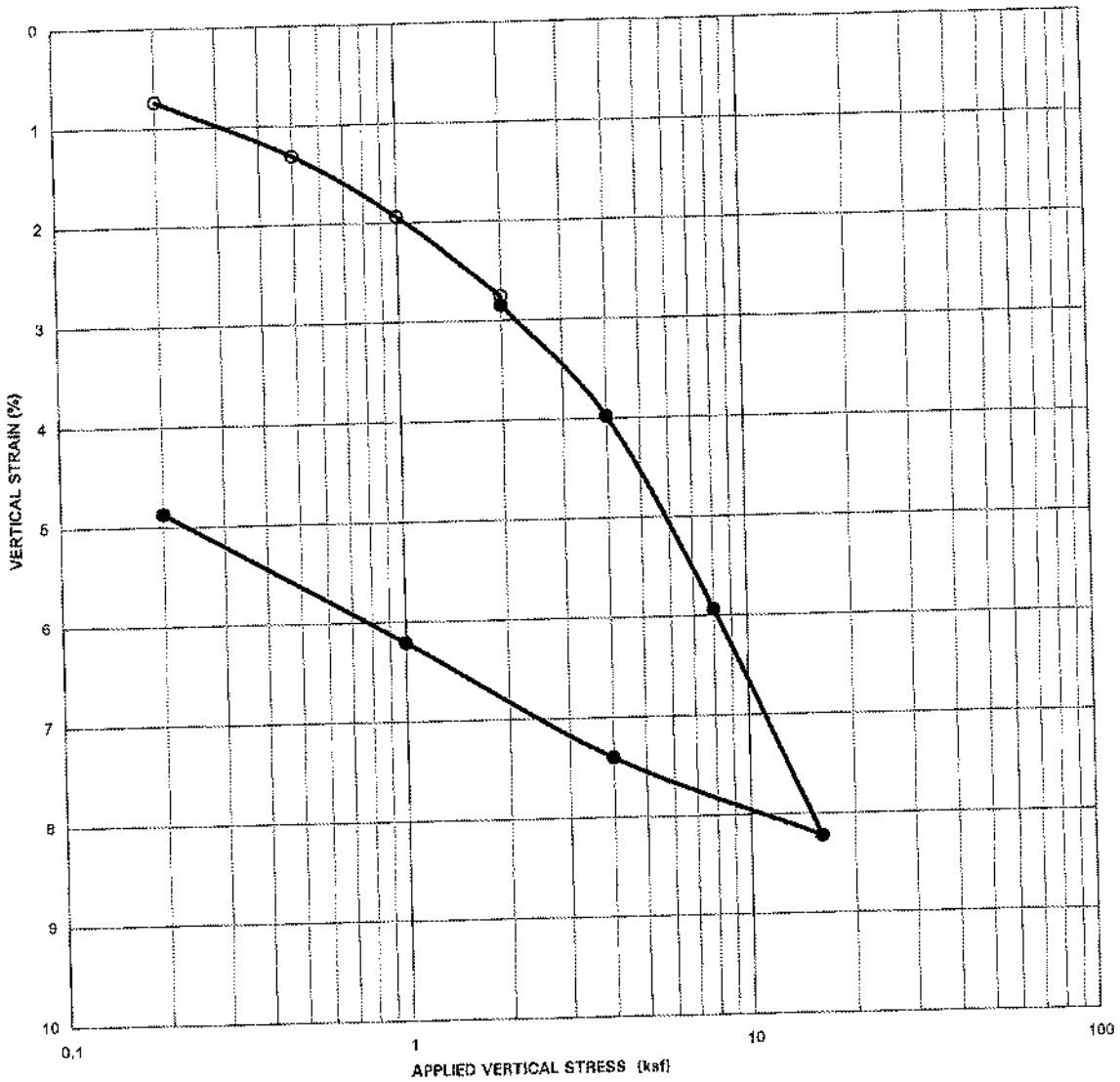
PLATE

B-21



Boring No.	B-13
Depth (feet)	20
Soil Classification	Sandy Silt
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	122
Initial Moisture Content (%)	9.3
Final Moisture Content (%)	17.1

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Proposed Athletic Fields
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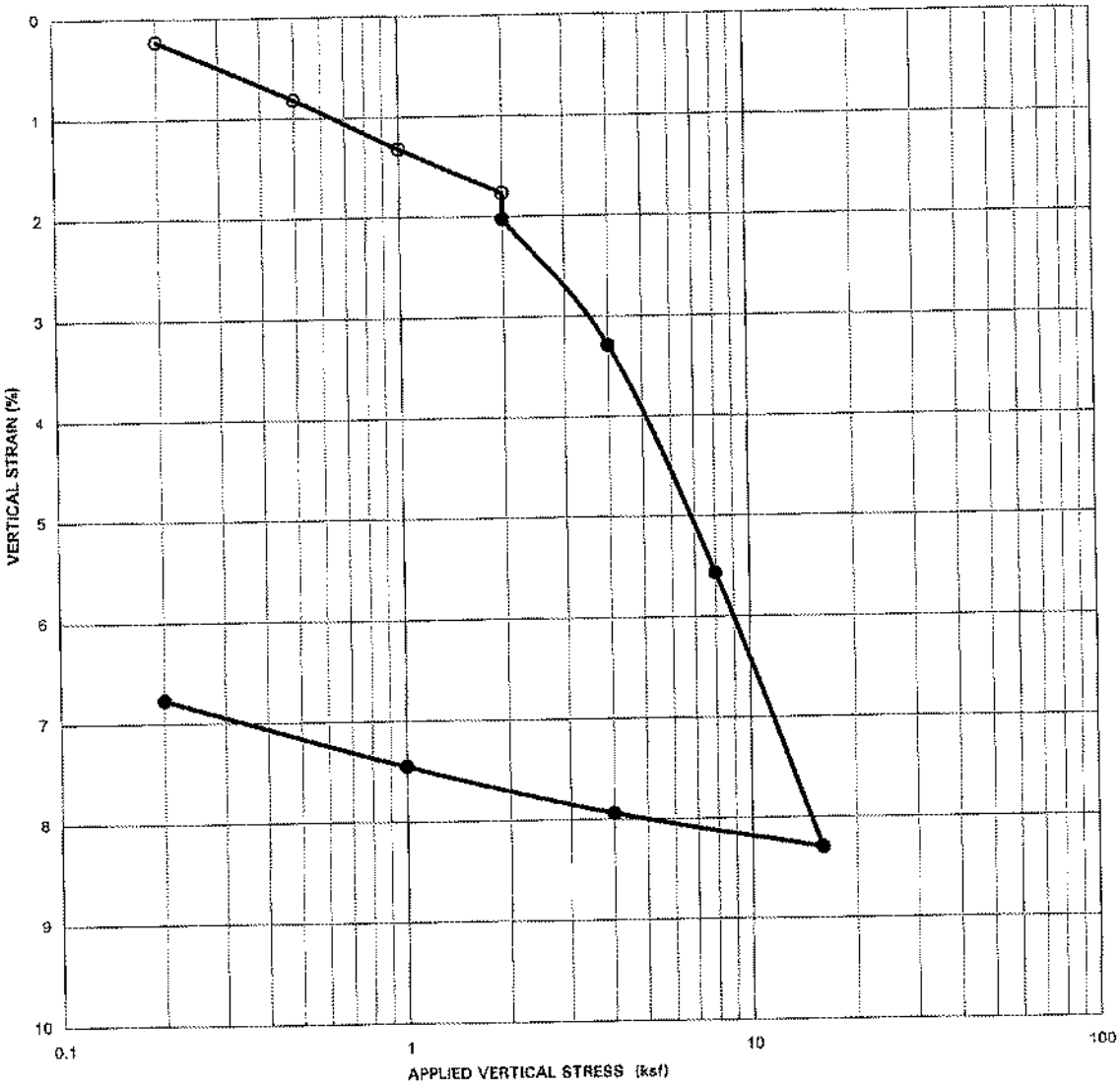
CONSOLIDATION TEST

PLATE

B-22



Boring No.	B-14
Depth (feet)	20
Soil Classification	Silty Sand
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	116
Initial Moisture Content (%)	6.7
Final Moisture Content (%)	15.5

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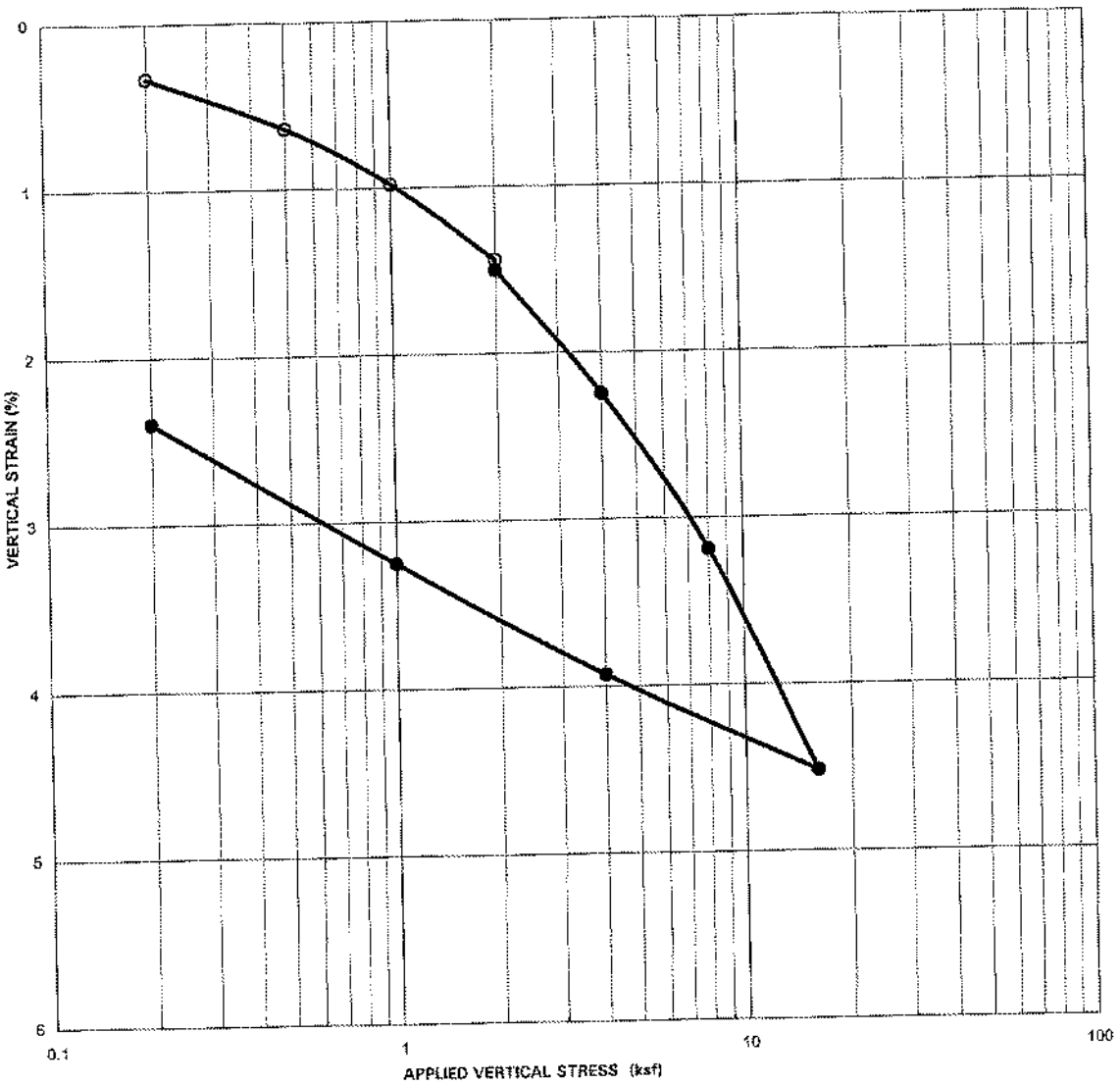
Los Angeles, California
CONSOLIDATION TEST

PLATE

B-23



Boring No.	B-14
Depth (feet)	25
Soil Classification	Sandy Silt
Water Added at	2 ksf
Initial Dry Unit Weight (pcf)	128
Initial Moisture Content (%)	7.9
Final Moisture Content (%)	14.3

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Proposed Athletic Fields
Sheldon-Arleta Landfill
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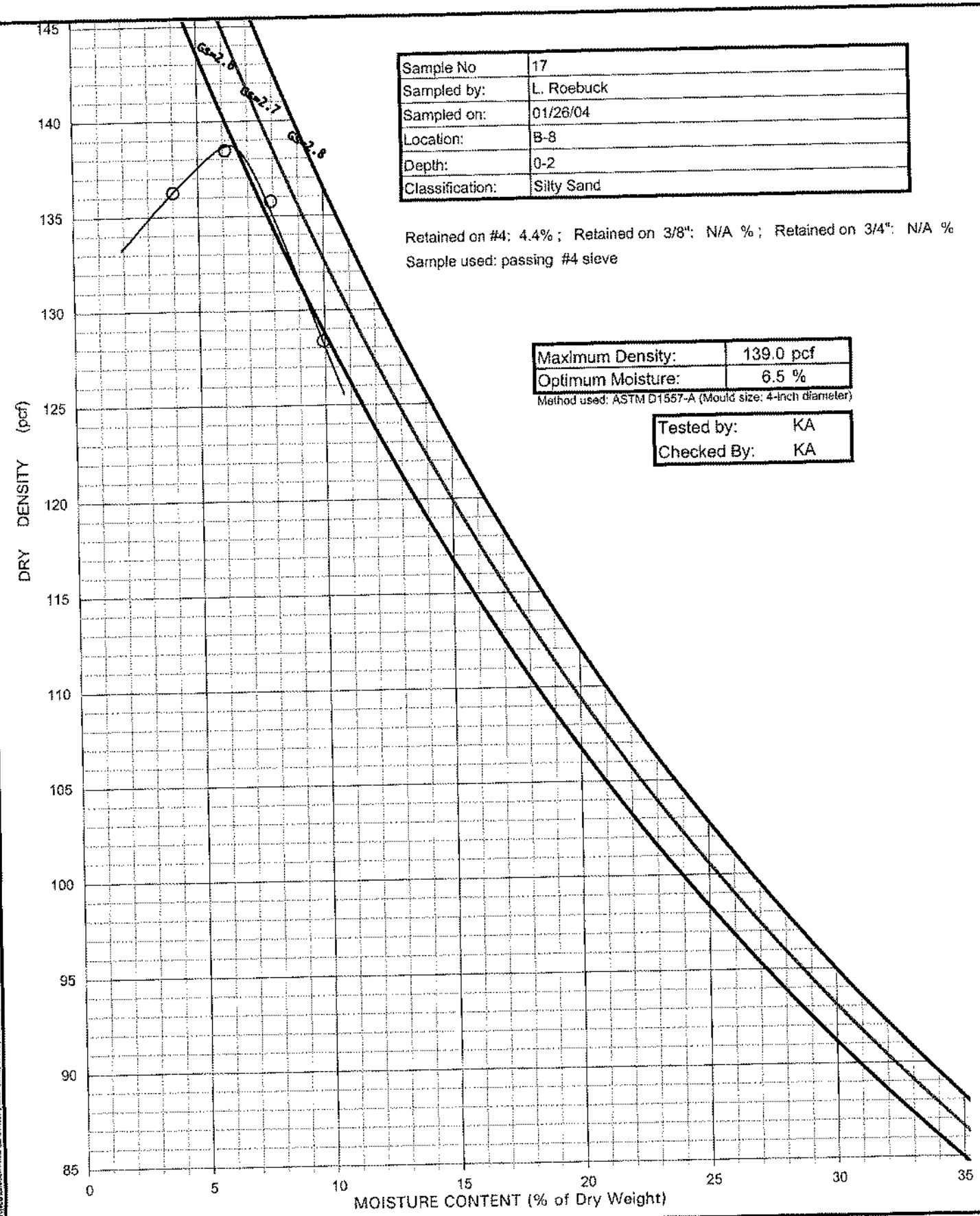
CONSOLIDATION TEST

PLATE

B-24



Sample No	17
Sampled by:	L. Roebuck
Sampled on:	01/26/04
Location:	B-8
Depth:	0-2
Classification:	Silty Sand

Retained on #4: 4.4% ; Retained on 3/8": N/A % ; Retained on 3/4": N/A %

Sample used: passing #4 sieve

Maximum Density:	139.0 pcf
Optimum Moisture:	6.5 %

Method used: ASTM D1557-A (Mould size: 4-inch diameter)

Tested by:	KA
Checked By:	KA

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MAX DENSITY TEST DATA

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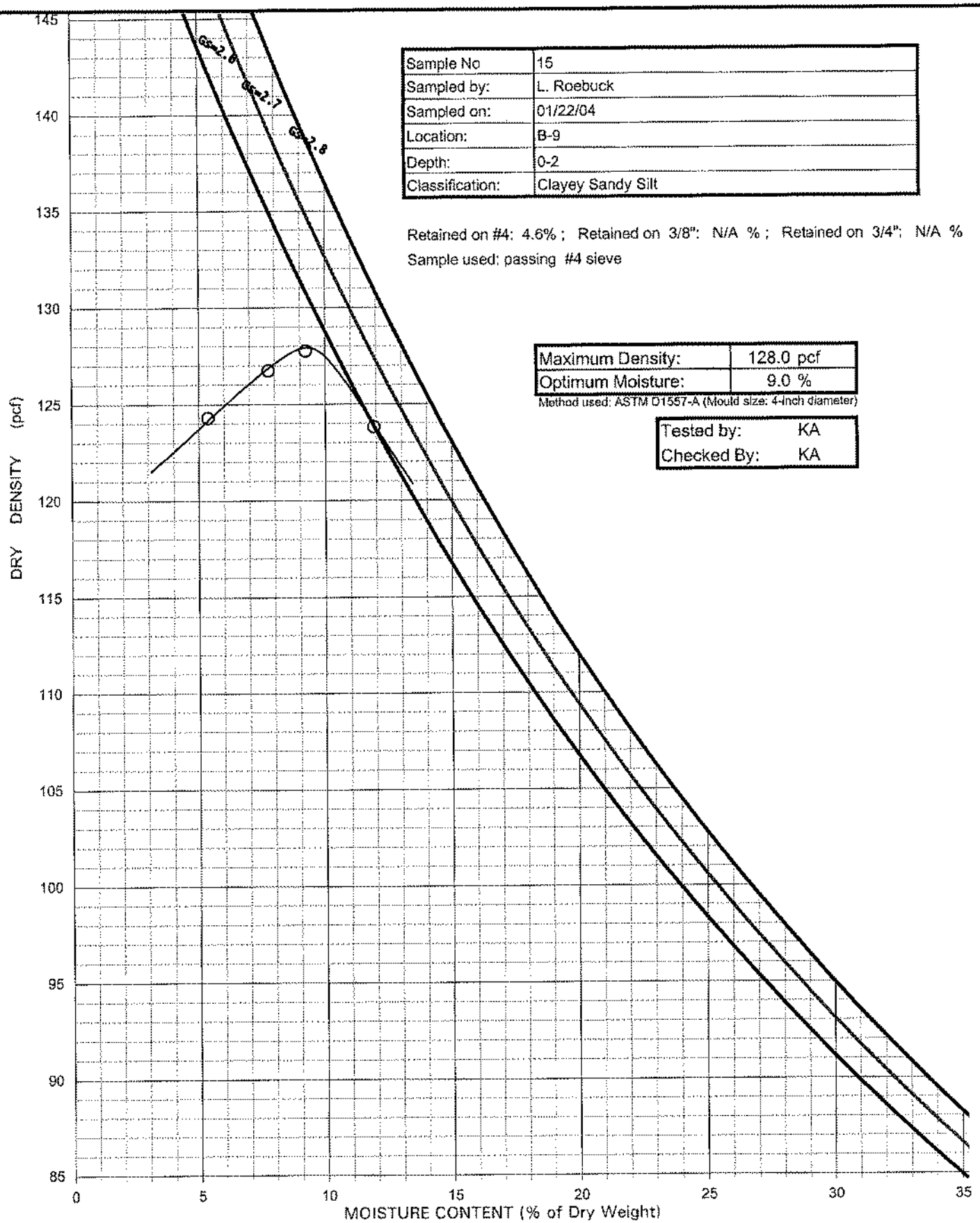
PLATE No.

B-25



Sample No	15
Sampled by:	L. Roebuck
Sampled on:	01/22/04
Location:	B-9
Depth:	0-2
Classification:	Clayey Sandy Silt

Retained on #4: 4.6% ; Retained on 3/8": N/A % ; Retained on 3/4": N/A %

Sample used: passing #4 sieve

Maximum Density:	128.0 pcf
Optimum Moisture:	9.0 %

Method used: ASTM D1557-A (Mould size: 4-inch diameter)

Tested by:	KA
Checked By:	KA

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MAX DENSITY TEST DATA

Proposed Athletic Fields
Sheldon-Arleta Landfill
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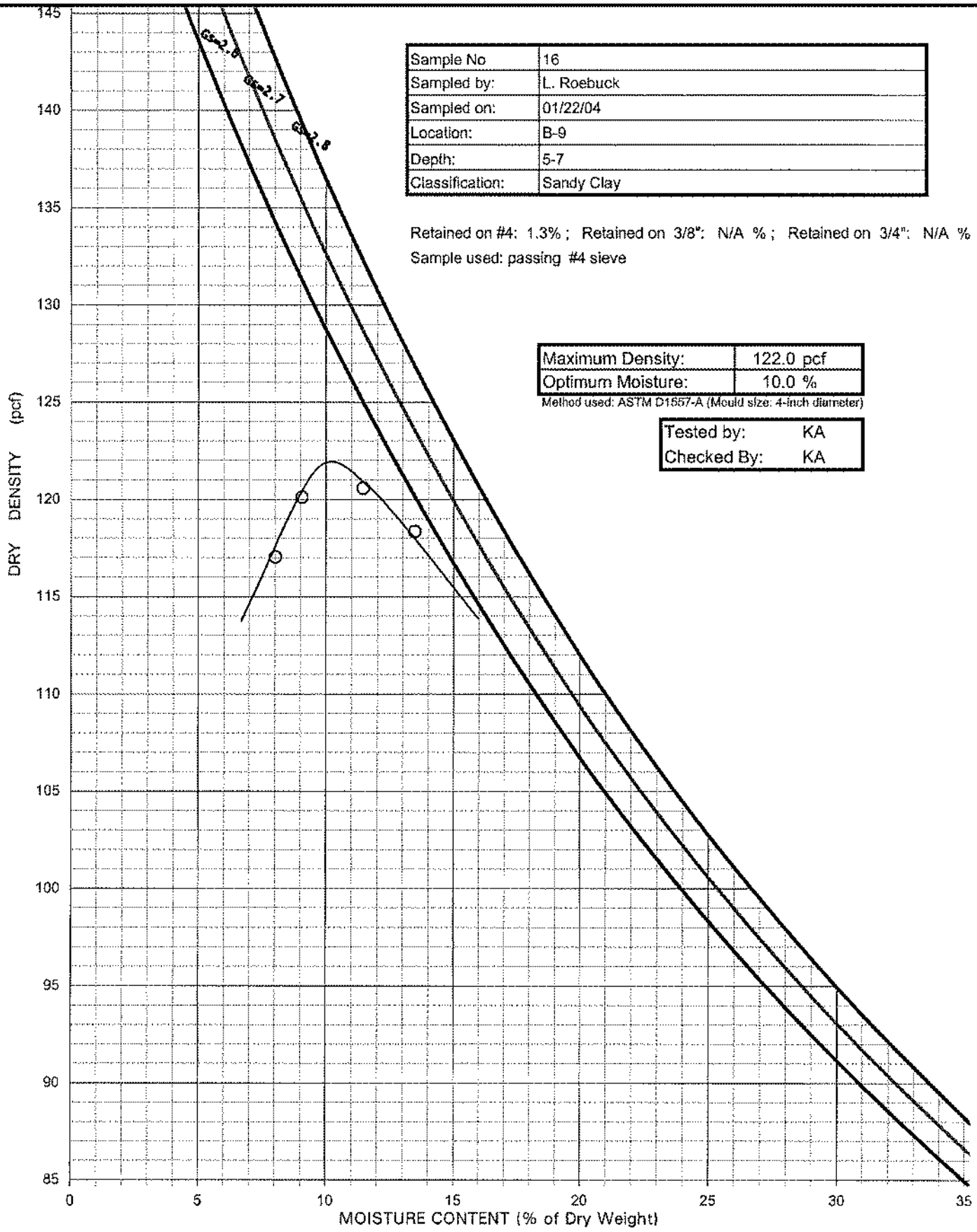
PLATE No.

B-26



Sample No	16
Sampled by:	L. Roebuck
Sampled on:	01/22/04
Location:	B-9
Depth:	5-7
Classification:	Sandy Clay

Retained on #4: 1.3% ; Retained on 3/8": N/A % ; Retained on 3/4": N/A %

Sample used: passing #4 sieve

Maximum Density:	122.0 pcf
Optimum Moisture:	10.0 %

Method used: ASTM D1557-A (Mould size: 4-inch diameter)

Tested by:	KA
Checked By:	KA

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MAX DENSITY TEST DATA

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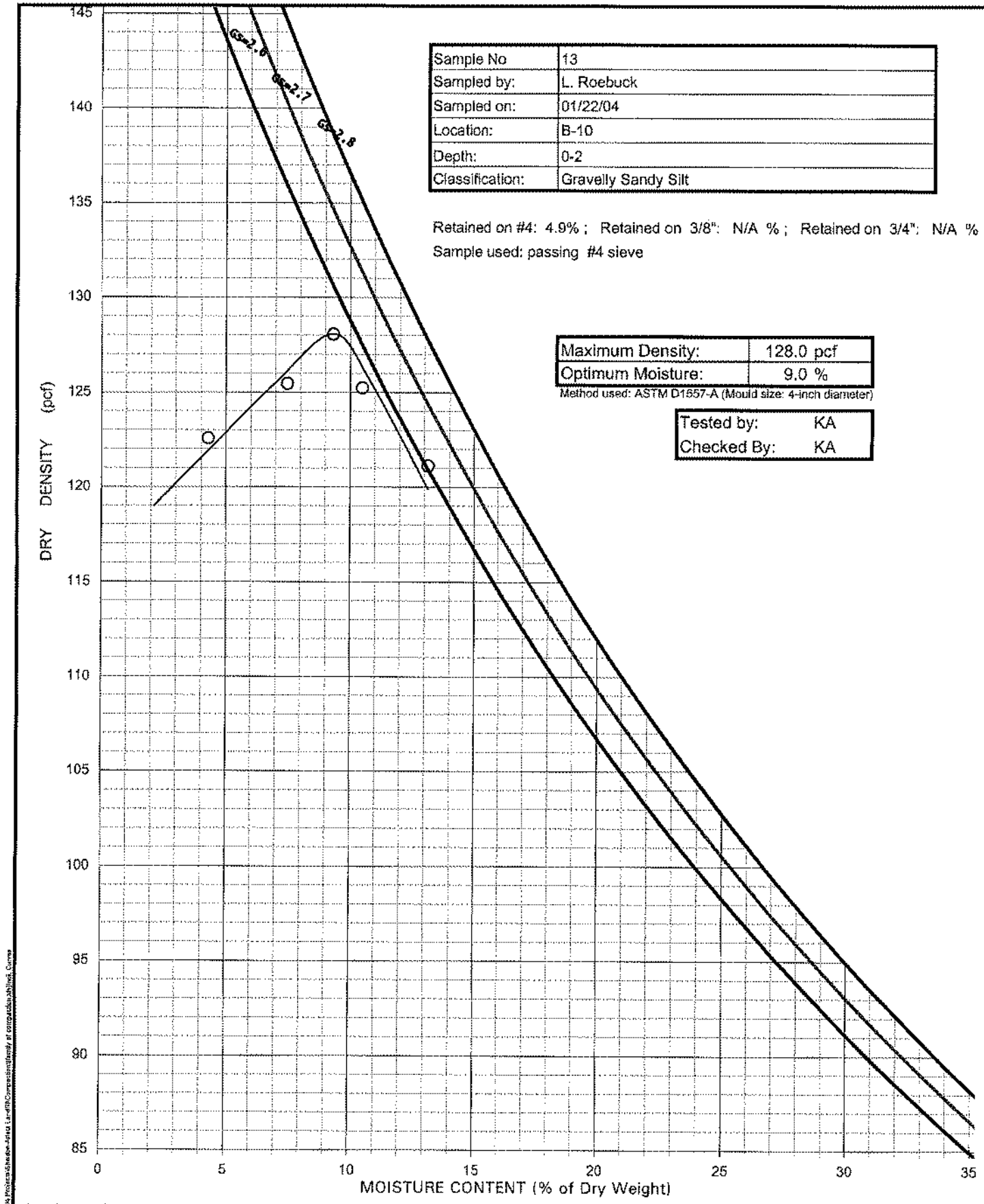
Sheldon-Arleta Landfill
Los Angeles, California
Project No. 39117 February 2004

PLATE No.

B-27



Sample No	13
Sampled by:	L. Roebuck
Sampled on:	01/22/04
Location:	B-10
Depth:	0-2
Classification:	Gravelly Sandy Silt

Retained on #4: 4.9% ; Retained on 3/8": N/A % ; Retained on 3/4": N/A %

Sample used: passing #4 sieve

Maximum Density:	128.0 pcf
Optimum Moisture:	9.0 %

Method used: ASTM D1557-A (Mould size: 4-inch diameter)

Tested by:	KA
Checked By:	KA

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MAX DENSITY TEST DATA

Proposed Athletic Fields
Sheldon-Arleta Landfill
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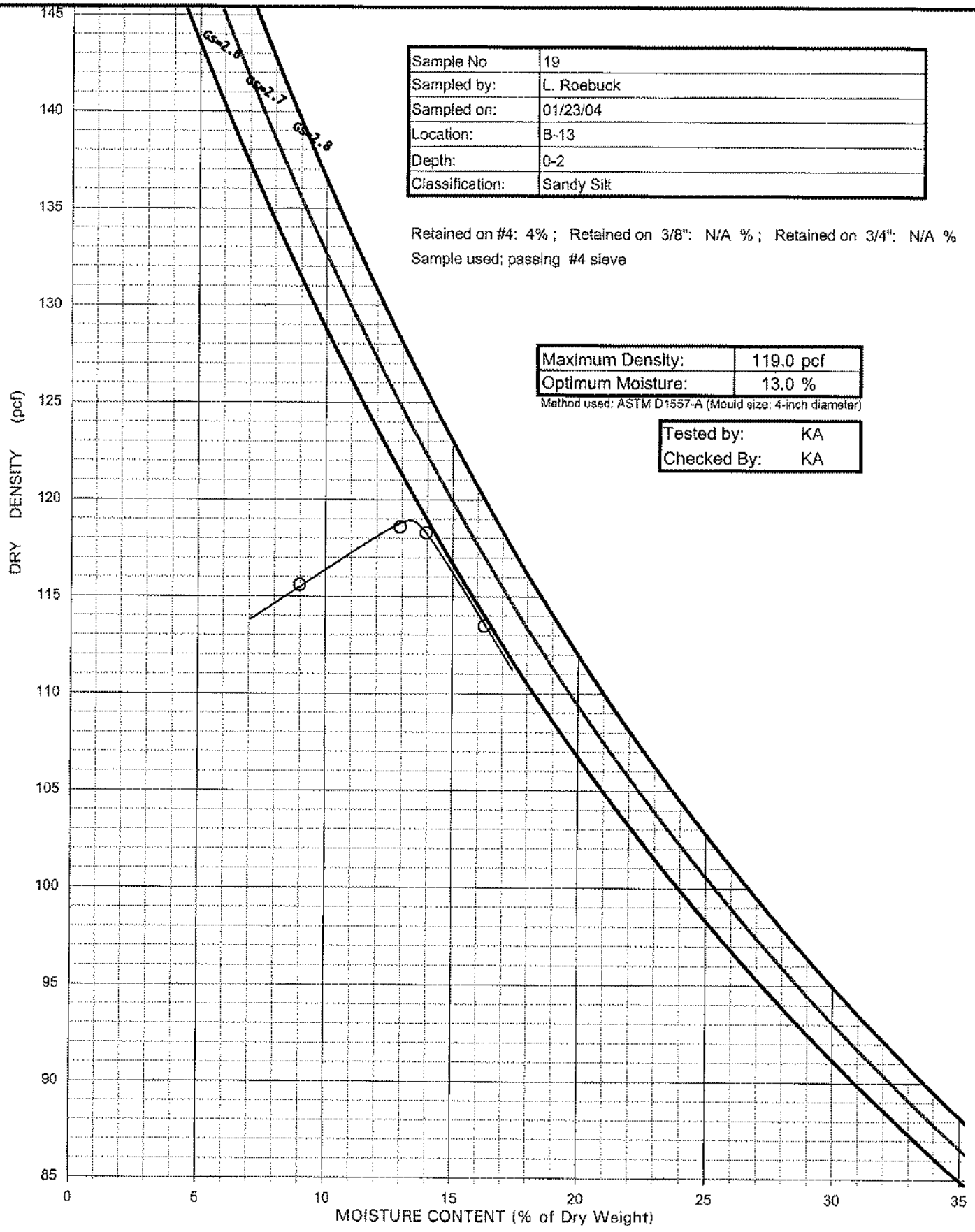
PLATE No.

B-28



Sample No	19
Sampled by:	L. Roebuck
Sampled on:	01/23/04
Location:	B-13
Depth:	0-2
Classification:	Sandy Silt

Retained on #4: 4% ; Retained on 3/8": N/A % ; Retained on 3/4": N/A %
Sample used: passing #4 sieve

Maximum Density:	119.0 pcf
Optimum Moisture:	13.0 %

Method used: ASTM D1557-A (Mould size: 4-inch diameter)

Tested by:	KA
Checked By:	KA

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MAX DENSITY TEST DATA

Proposed Athletic Fields
Sheldon-Arleta Landfill
Los Angeles, California
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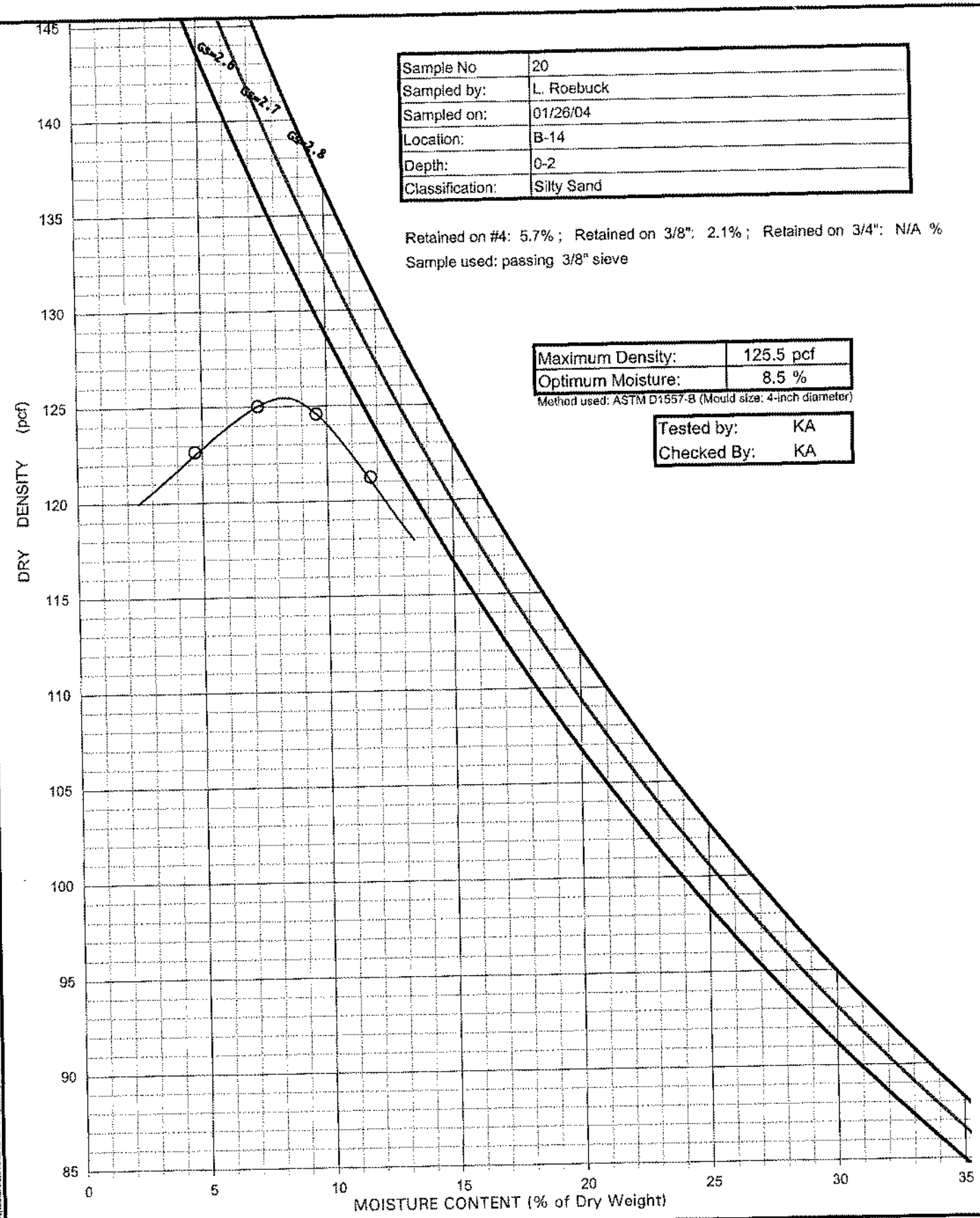
PLATE No.
B-29



Sample No	20
Sampled by:	L. Roebuck
Sampled on:	01/26/04
Location:	B-14
Depth:	0-2
Classification:	Silty Sand

Retained on #4: 5.7% ; Retained on 3/8": 2.1% ; Retained on 3/4": N/A %

Sample used: passing 3/8" sieve

Maximum Density:	125.5 pcf
Optimum Moisture:	8.5 %

Method used: ASTM D1557-B (Mould size: 4-inch diameter)

Tested by:	KA
Checked By:	KA

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MAX DENSITY TEST DATA

Proposed Athletic Fields
Sheldon-Arleta Landfill
Los Angeles, California
Project No. 39117 February 2004

PLATE No.
B-30

APPENDIX C

GEOTECHNICAL LABORATORY TESTING FOR BORINGS B-15 THROUGH B-34

APPENDIX C
GEOTECHNICAL LABORATORY TESTING FOR BORINGS B-15 THROUGH B-34

This Appendix presents the results of geotechnical laboratory tests on soil samples from Borings B-15 through B-34. The laboratory tests were performed on representative intact and bulk soil samples to estimate engineering characteristics of the various earth materials encountered. Testing was performed in accordance with one of the following references:

1) Lambe, T. William, Soil Testing for Engineers, Wiley, New York, 1951

2) Laboratory Soils Testing, U.S. Army, Office of the Chief of Engineers, Engineering Manual No. 1110-2-1906, November 30, 1970

3) ASTM Standards for Soil Testing, latest revisions

4) Uniform Building Code, 1997 edition

LABORATORY MOISTURE AND UNIT WEIGHT DETERMINATIONS

Natural moisture content and dry unit weight tests were performed on soil samples collected from the borings in accordance with ASTM D2216-92 and D2937-94, respectively. The results are presented on the Logs of Borings and are summarized in Table C-1, Moisture Content and Dry Unit Weight.

WASH SIEVE

The percent passing #200 sieve of five (5) selected soil samples were performed by wash sieving in accordance with ASTM Standard Test Method D 1140-92. The test results are summarized in Table C-2, Wash Sieve Test Results.

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SIEVE ANALYSES

Sieve analysis was performed on two (2) samples of the materials encountered at the site to evaluate the grain size distribution characteristics of the soils and to aid in their classification. The tests were performed in general accordance with ASTM Test Method D 422. The results of these tests are presented on Plate C-1, Grain Size Distribution.

HYDROMETER

Hydrometer testing was performed on one selected soil sample to evaluate the gradation characteristics of the fine grain soils passing the #200 sieve, and to aid in the classification of the soil. The test was performed in general accordance with ASTM Test Method D 422. Results of the test are presented on Plate C-1, Grain Size Distribution.

DIRECT SHEAR

Direct shear tests were conducted on four (4) remolded soil samples and one (1) relatively undisturbed sample in accordance with ASTM Standard Test Method D 3080-90 to evaluate the shear strength parameters of the materials. The remolded samples were compacted to approximately 95 percent relative compaction at a moisture content near the optimum moisture content. Prior to shearing, the samples were soaked with water to saturation or near saturation moisture contents. The in-situ dry density and moisture content of the relatively undisturbed sample is presented in Table C-1 and on the boring logs. The test results are presented on Plates C-2 through C-6, Direct Shear Test.

CONSOLIDATION

Consolidation tests were performed on two (2) selected relatively undisturbed samples and one (1) remolded sample. The remolded sample was compacted to approximately 95 percent relative compaction at a moisture content near the optimum moisture content. The tests were performed in general accordance with ASTM Standard Test Method D 2435. The relatively undisturbed samples were each inundated with water at an axial load of 2 ksf to evaluate the results of saturation on the selected samples. The test results are presented on Plates C-7 through C-9, Consolidation Test.

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CORROSIVITY TESTS

A series of chemical tests were performed on three (3) selected samples collected from a depth between approximately 0 to 3 feet below the existing grade to estimate pH, resistivity, and sulfate and chloride contents. The test results shall be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to the construction materials. The results of the tests are presented in Table C-3, Corrosion Test Results.

MAXIMUM DRY DENSITY

Maximum dry density testing was performed on eight (8) selected samples of the near-surface soils encountered at the site. The tests were performed in general accordance with ASTM Standard Test Method D 1557. The test results are presented on Table C-4, Maximum Dry Density and Optimum Moisture Content, and on Plates C-10 through C-17, Compaction Diagram.

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Table C-1
Moisture Content and Dry Unit Weight

Boring	Depth (ft)	Dry Unit Weight (pcf)	Moisture Content (%)
B-15	2.5	98	4.1
B-15	7.5	97	6.7
B-15	10.0	112	8.0
B-15	15.0	117	2.5
B-15	20.0	115	2.6
B-16	2.5	105	7.0
B-16	7.5	NR	3.1
B-17	2.5	124	2.5
B-17	5.0	117	2.2
B-17	7.5	118	2.4
B-17	10.0	116	2.3
B-17	15.0	107	1.7
B-18	2.5	108	13.3
B-18	5.0	124	6.7
B-18	10.0	74	4.3
B-18	20.0	113	2.9
B-19	5.0	112	8.1
B-19	10.0	104	4.9
B-19	20.0	Disturbed	15.3
B-20	5.0	102	7.7
B-20	10.0	Disturbed	2.6
B-21	2.5	*	2.5
B-21	7.5	*	1.9
B-21	15.0	*	7.3
B-21	20.0	103	3.8
B-22	2.5	*	2.3
B-22	7.5	*	2.9
B-22	15.0	*	3.8
B-23	2.5	Disturbed	1.1
B-23	7.5	108	2.6
B -23	15.0	Disturbed	1.8
B-24	2.5	*	2.2
B-24	5.0	88	3.2
B-24	10.0	99	4.9
B-24	20.0	107	3.8
B-25	2.5	*	2.8
B-25	5.0	99	5.3
B-25	7.5	*	1.0

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Table C-1 (Cont.)
Moisture Content and Dry Unit Weight

B-25	15.0	*	1.7
B-26	2.5	96	0.8
B-26	7.5	108	1.1
B-26	20.0	*	1.2
B-27	5.0	96	1.5
B-27	7.5	*	1.3
B-27	15.0	*	3.5
B-28	2.5	*	1.3
B-28	7.5	*	0.4
B-28	20.0	114	2.1
B-29	2.5	96	1.7
B-29	7.5	Disturbed	0.8
B-30	7.5	93	1.7
B-30	10.0	105	1.9
B-30	20.0	Disturbed/Rocky	1.4
B-31	2.5	Disturbed	1.2
B-31	7.5	Disturbed	1.3
B-31	15.0	Disturbed	1.2
B-32	2.5	87	22.6
B-32	5.0	104	3.1
B-32	7.5	100	2.3
B-32	10.0	Disturbed	1.6
B-33	2.5	Disturbed	1.7
B-33	7.5	Disturbed	1.3
B-33	10.0	Disturbed	0.6
B-33	15.0	110	3.7
B-34	5.0	*	1.9
B-34	7.5	*	1.5
B-34	15.0	*	1.2

* SPT Samples – Density test was not done.

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Table C-2
Wash Sieve Test Results

Boring	Depth (ft)	Percent Passing No. 200 (0.075 mm)
B-17	2.5	8
B-18	2.5	46
B-29	2.5	30
B-30	7.5	11
B-31	7.5	4

Table C-3
Corrosion Test Results

Boring	Depth (ft)	pH	Sulfate (ppm)	Chloride (ppm)	Resistivity (Ω-cm)
B-17	0 – 2	7.86	13	128	1200
B-21	0 – 2	7.90	20	134	3100
B-30	0 - 3	7.93	4	62	5700

Table C-4
Maximum Dry Density and Optimum Moisture Content

Boring	Depth (feet)	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)
B-17	0 – 2	141.5	6.0
B-18	0 – 2	124.5	8.5
B-21	0 – 2	126.0	10.5
B-26	0 – 2	134.0	7.0
B-27	0 – 3	123.0	9.0
B-28	0 – 2	123.0	8.0
B-29	0 – 3	134.0	7.0
B-34	0 – 2	118.0	10.0

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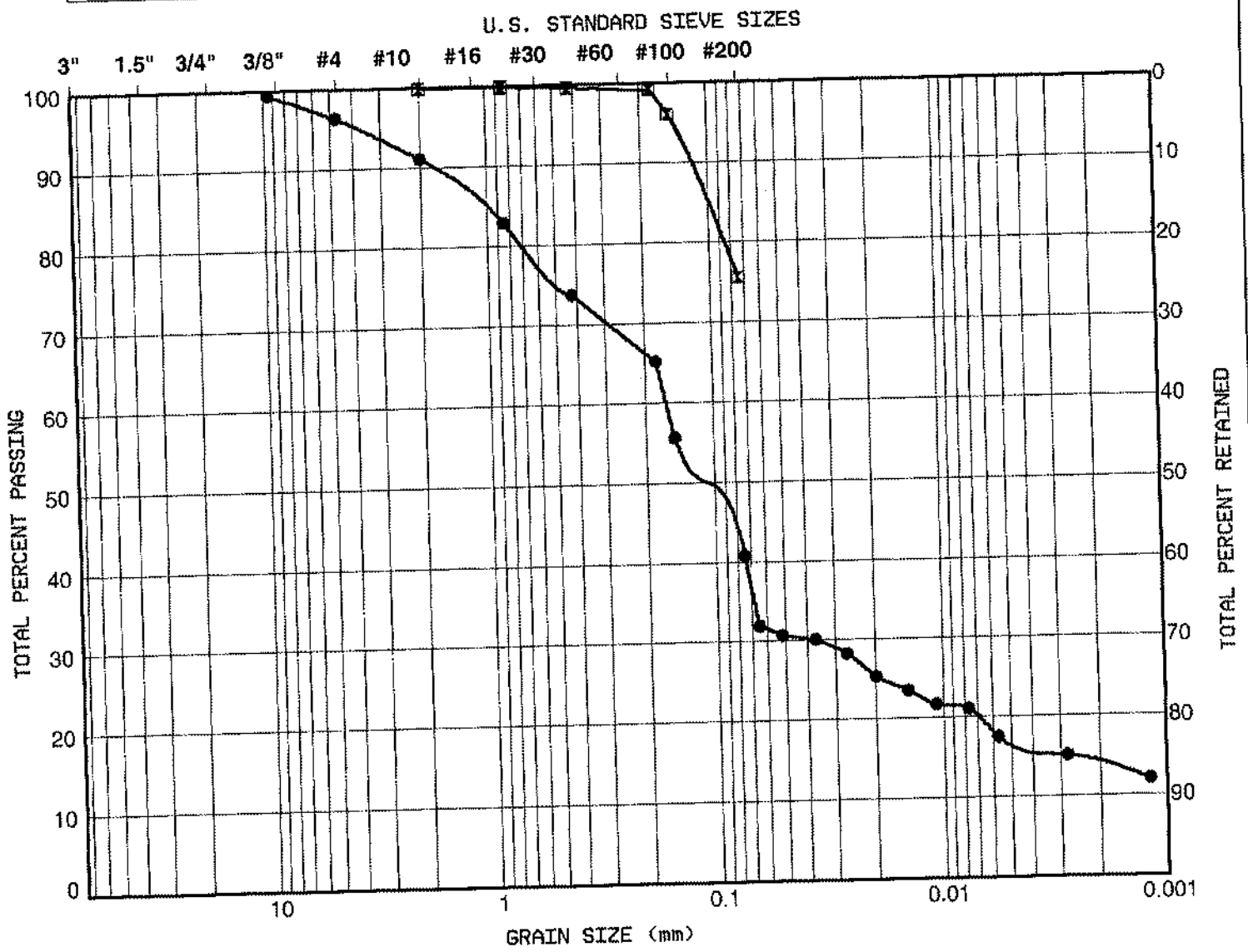
SIEVE ANALYSIS | HYDROMETER



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

Symbol	Sample	Depth (ft)	Description	Classification
●	B-16	2.5	Silty Sand	SM
⊠	B-25	5.0	Sandy Silt	ML

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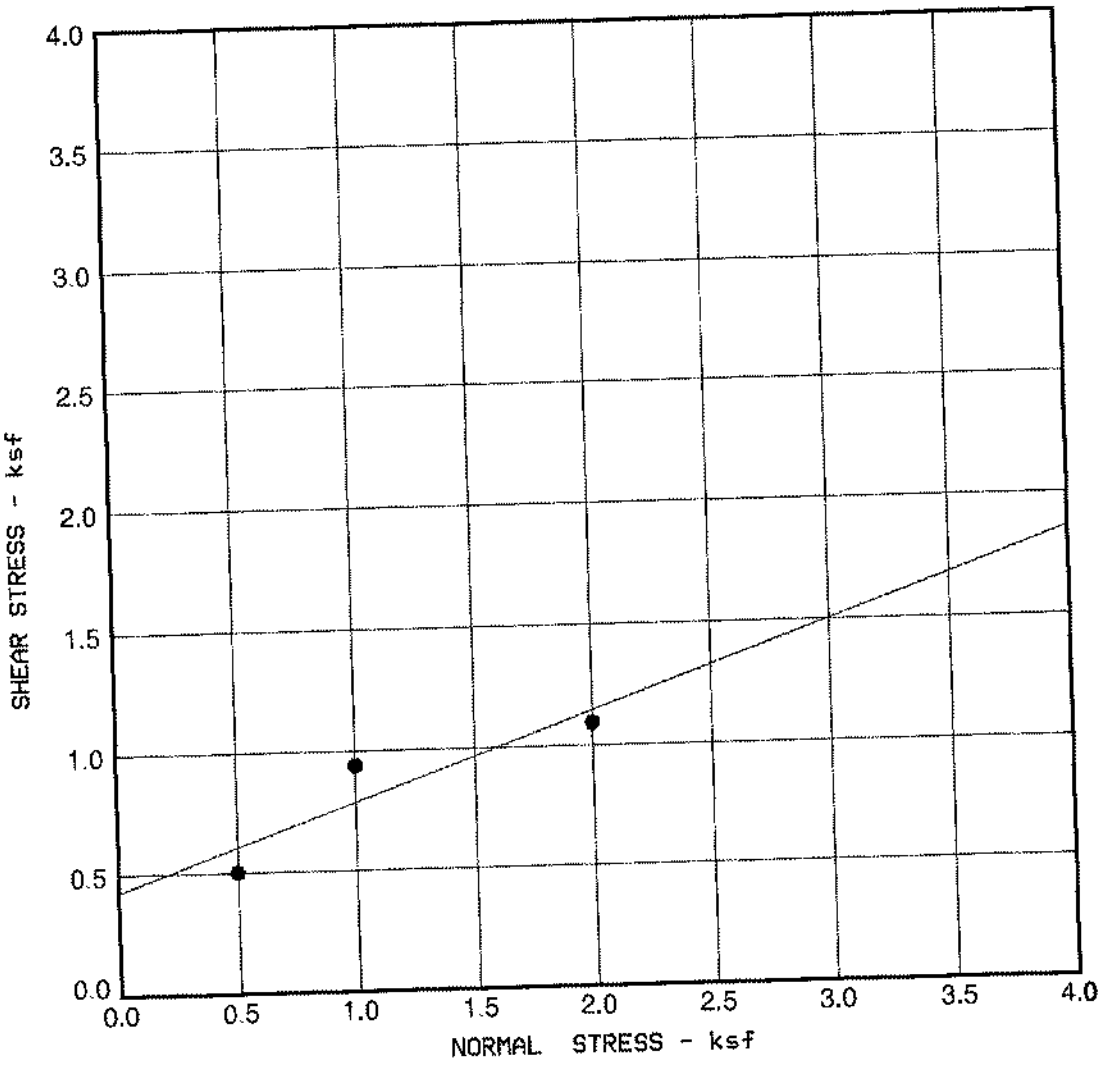
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

GRAIN SIZE DISTRIBUTION

PLATE

C-1



Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	500	1000	2000
Ultimate Shear - psf	504	936	1092
	-	-	-

Sample	B-18 *
Depth - ft	0 - 2
Friction Angle - deg	20
Cohesion - ksf	0.43
Description	Silty Sand
Classification	SM

*Sample remolded and compacted to 95% of Maximum Dry Unit Weight
Maximum Dry Unit Wt.= 124.5 pcf; Optimum Moisture Content = 8.5 %
Test Sample: Dry Unit Wt.= 118.3 pcf, Moisture Content = 8.3 %
Moisture Content After Test = 16.5 %

KLEINFELDER

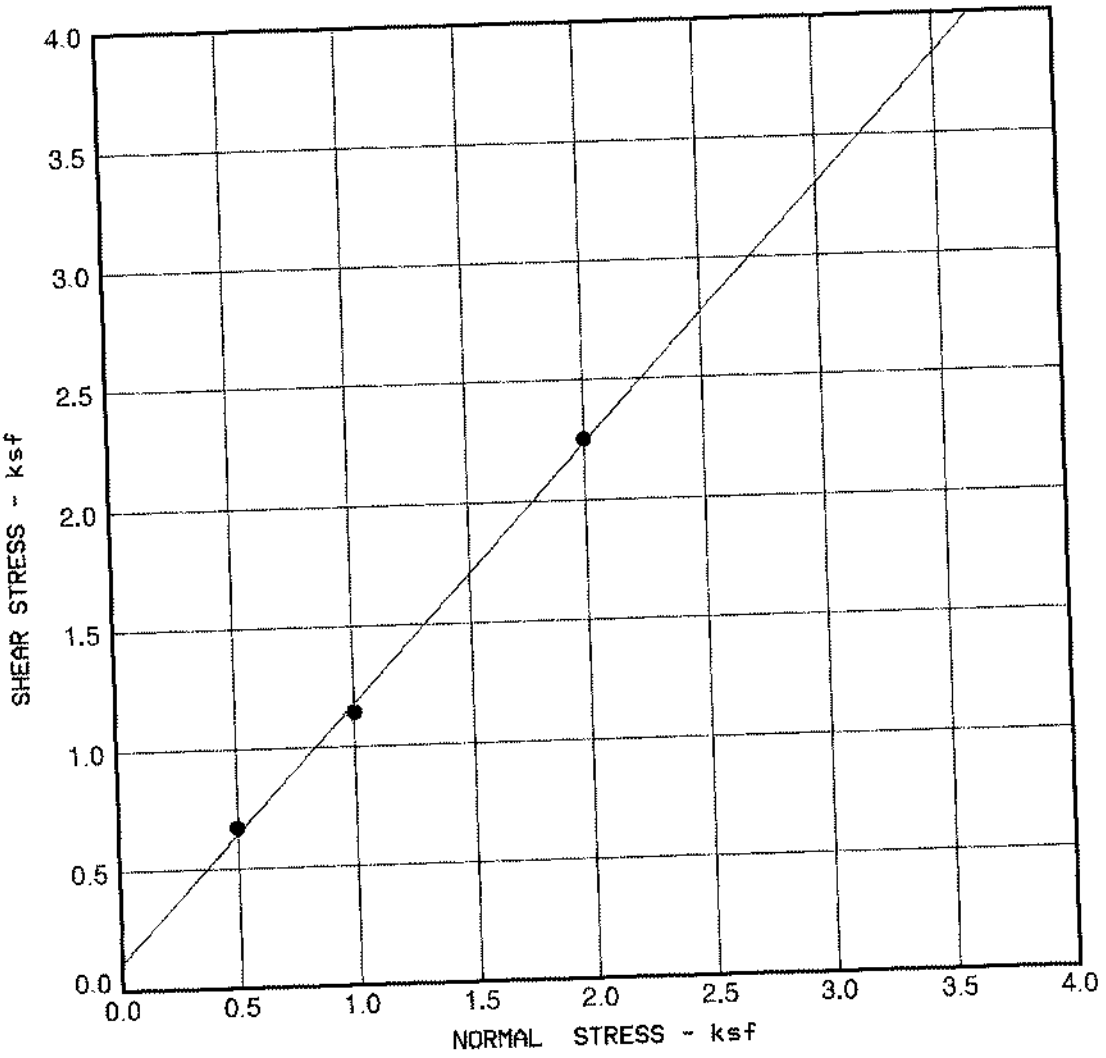
Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

C-2

PROJECT NO. 46824



Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	500	1000	2000
Ultimate Shear - psf	672	1140	2256
	-	-	-

Sample	B-21 *
Depth - ft	0 - 2
Friction Angle - deg	47
Cohesion - ksf	0.11
Description	Sand with Silt
Classification	SP-SM

*Sample remolded and compacted to 95% of Maximum Dry Unit Weight
Maximum Dry Unit Wt.= 126.0 pcf; Optimum Moisture Content = 10.5 %
Test Sample: Dry Unit Wt.= 119.7 pcf, Moisture Content = 10.5 %
Moisture Content After Test = 13.8 %

KLEINFELDER

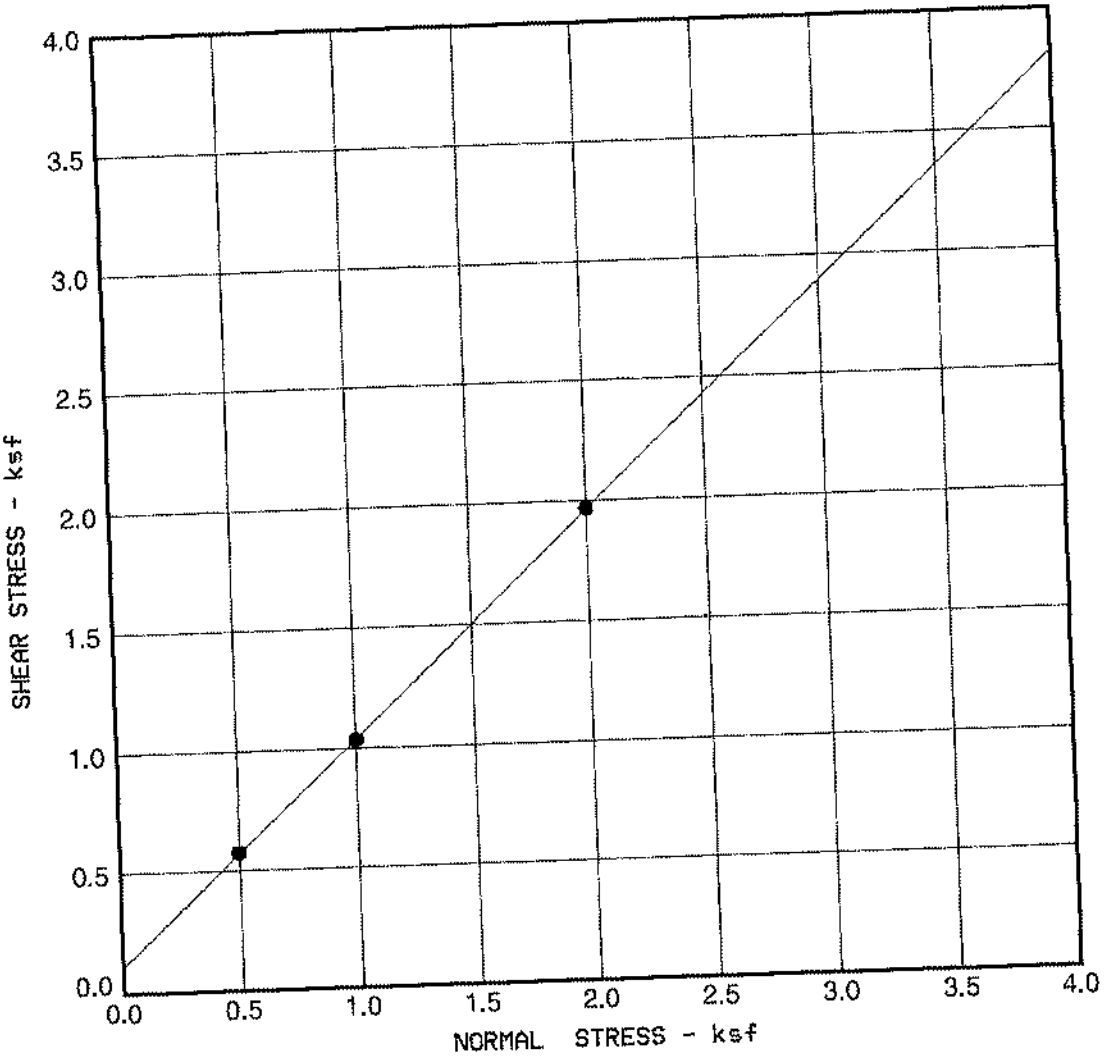
Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

C-3

PROJECT NO. 46824



Test type	controlled - strain test		
Rete of shear - in/min	0.004		
Normal Stress - psf	500	1000	2000
Ultimate Shear - psf	576	1032	1968
	-	-	-

Sample	B-27 *
Depth - ft	0 - 2
Friction Angle - deg	43
Cohesion - ksf	0.11
Description	Silty Sand
Classification	SM

*Sample remolded and compacted to 95% of Maximum Dry Unit Weight
Maximum Dry Unit Wt.= 123.0 pcf; Optimum Moisture Content = 9.0 %
Test Sample: Dry Unit Wt.= 116.9 pcf, Moisture Content = 8.9 %
Moisture Content After Test = 14.8 %

KLEINFELDER

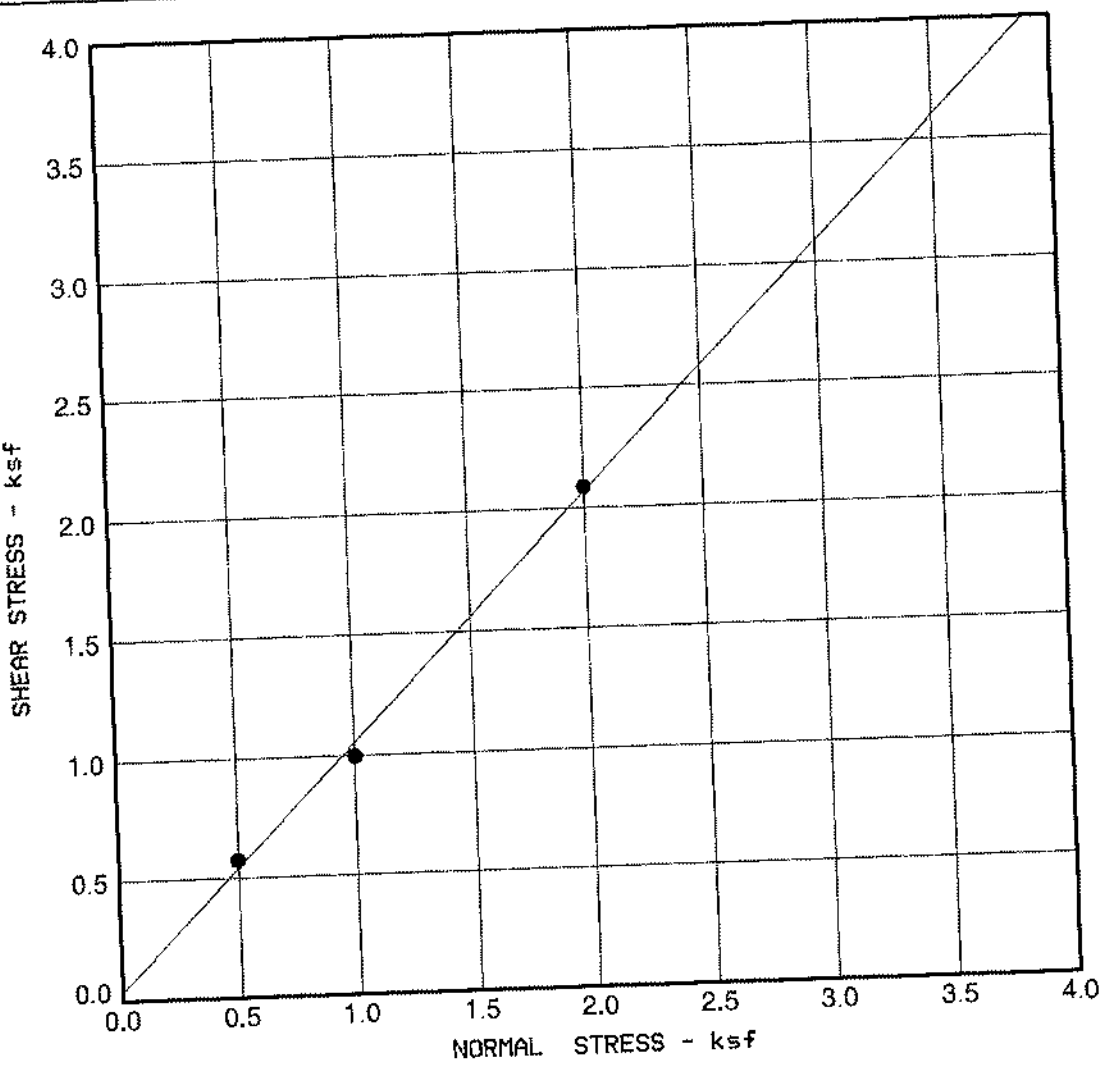
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

C-4



Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	500	1000	2000
Ultimate Shear - psf	576	996	2088
	-	-	-

Sample	B-28 *
Depth - ft	0 - 2
Friction Angle - deg	46
Cohesion - ksf	0.03
Description	Sand with Silt
Classification	SP-SM

*Sample remolded and compacted to 95% of Maximum Dry Unit Weight
Maximum Dry Unit Wt.= 123.0 pcf; Dptimum Moisture Content = 8.0 %
Test Sample: Dry Unit Wt.= 116.9 pcf, Moisture Content = 8.0 %
Moisture Content After Test = 16.4 %

KLEINFELDER

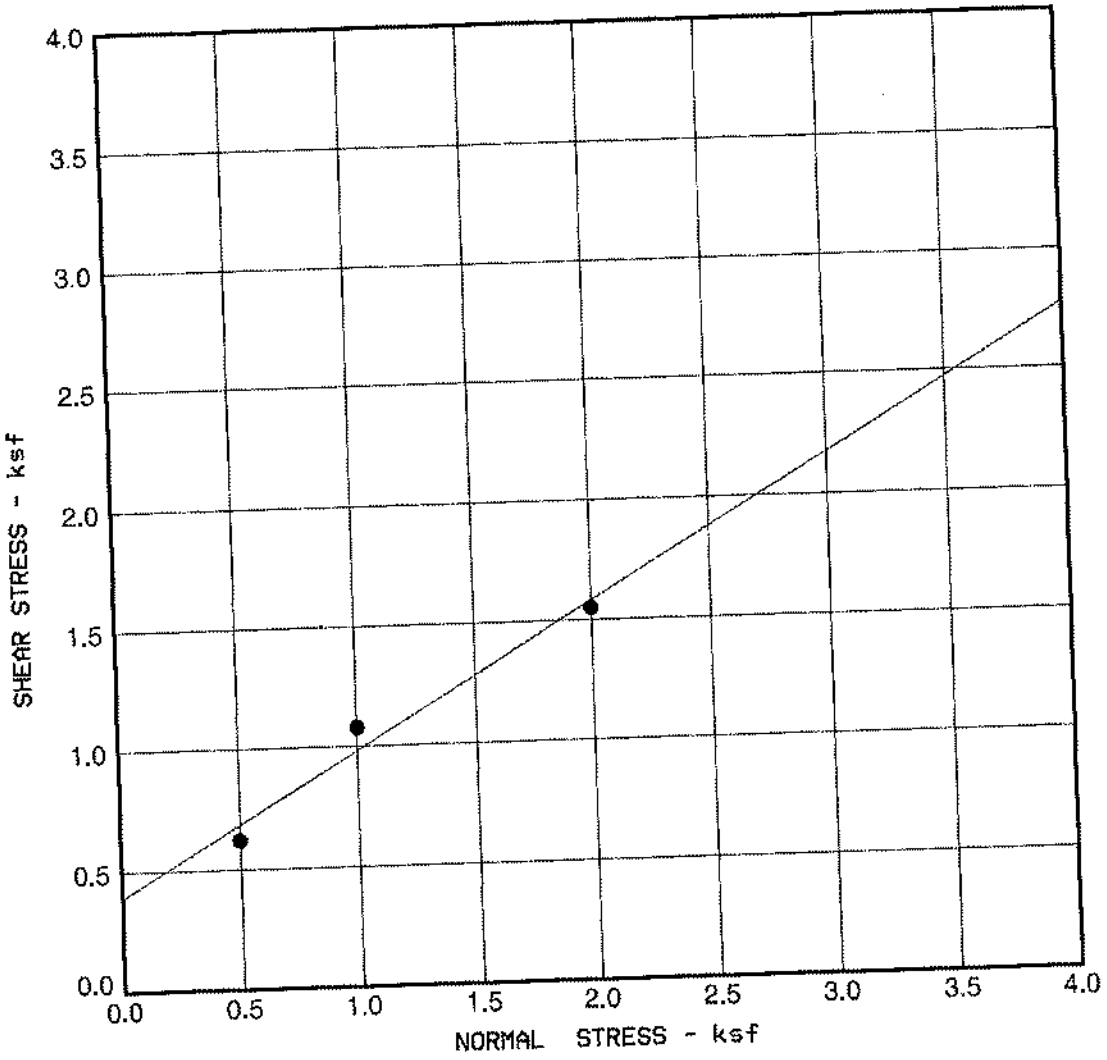
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

C-5



Test type	controlled - strain test		
Rate of shear - In/min	0.004		
Normal Stress - paf	500	1000	2000
Maximum Shear - psf	624	1080	1548
Shear Strain - %	-	-	-

Sample	B-18
Depth - ft	2.5
Friction Angle - deg	31
Cohesion - ksf	0.39
Description	Sandy Clay
Classification	CL

Moisture Content Before Test = 13.3 %
Moisture Content After Test = 18.1 %
Initial Dry Unit Weight = 108 pcf

KLEINFELDER

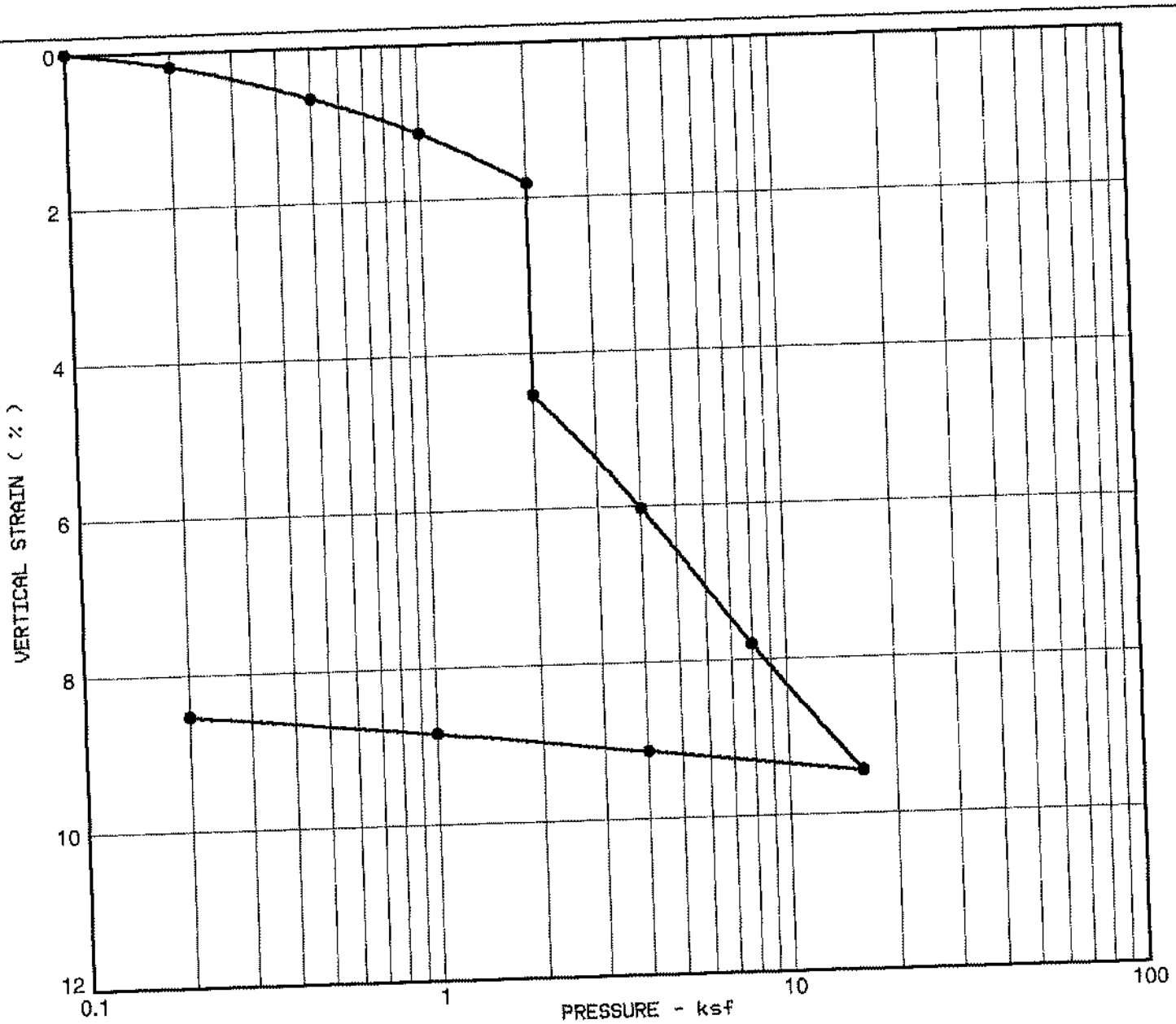
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

C-6



Sample	B-15
Depth	10.0 ft
Description	Sand W/ Silt
Classification	SP-SM
Compression Ratio	0.056
Recompression Ratio	0.005

Moisture Content Before = 3.0 %
Moisture Content After = 13.8 %
Initial Dry Unit Weight = 112 pcf

KLEINFELDER

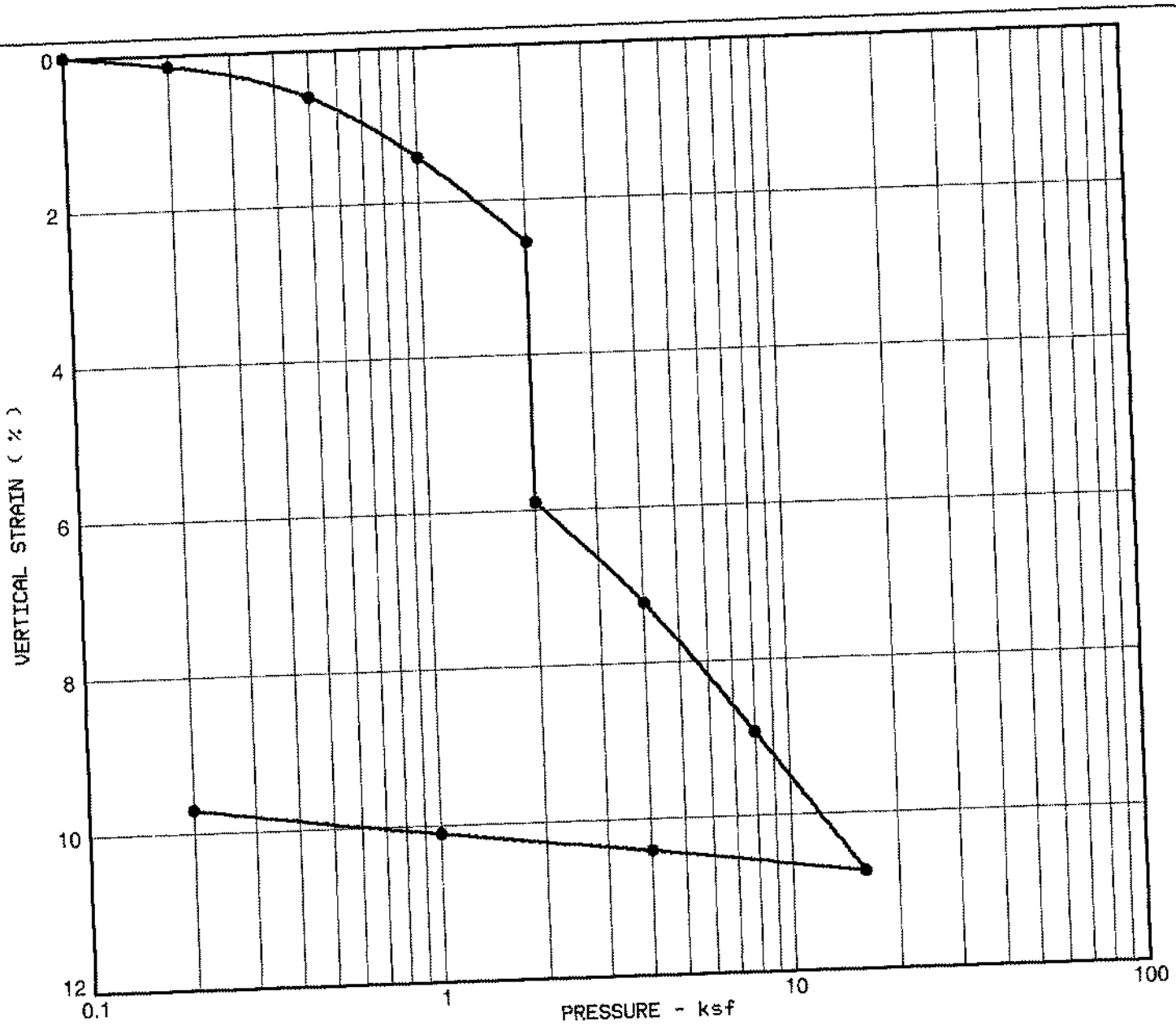
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

CONSOLIDATION TEST

PLATE

C-7



Sample	B-27
Depth	5.0 ft
Description	Sand
Classification	SP
Compression Ratio	0.043
Recompression Ratio	0.005

Moisture Content Before = 1.5 %
Moisture Content After = 20.6 %
Initial Dry Unit Weight = 96 pcf

KLEINFELDER

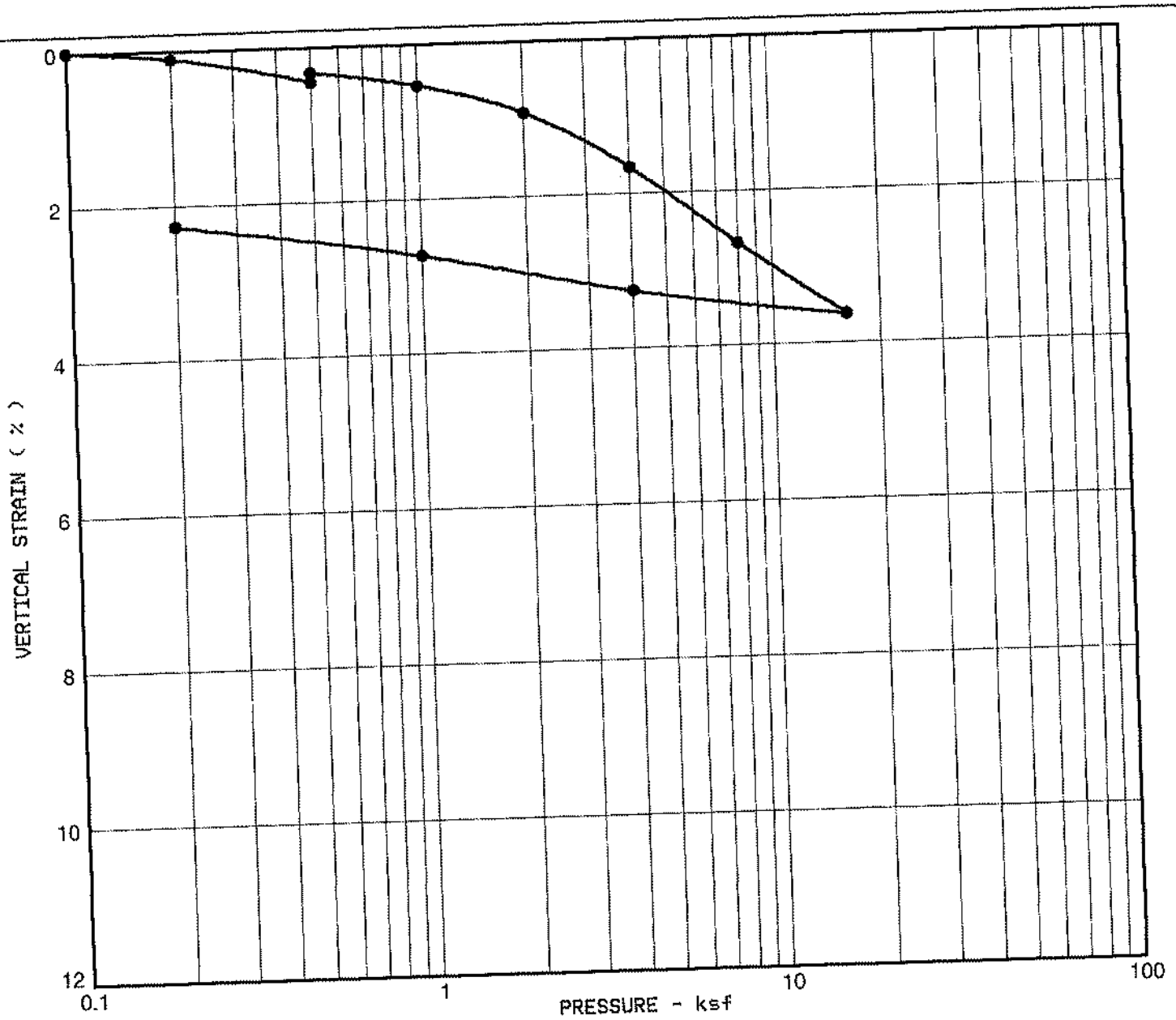
Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

CONSOLIDATION TEST

PLATE

C-8

PROJECT NO. 46824



*Sample compacted to 95% of Maximum Dry Density = 123.0 pcf, Optimum Moisture Content = 8.0 %
Maximum Density based on data presented in Table B-4
Moisture Content before = 7.9 % , Dry Density =116.5 pcf
Moisture Content after = 14.5 %

Boring	B-28 *
Depth, ft	0 - 2
Description	Sand with Slit
Classification	SP-SM
Compression Ratio	0.030
Recompression Ratio	0.009

KLEINFELDER

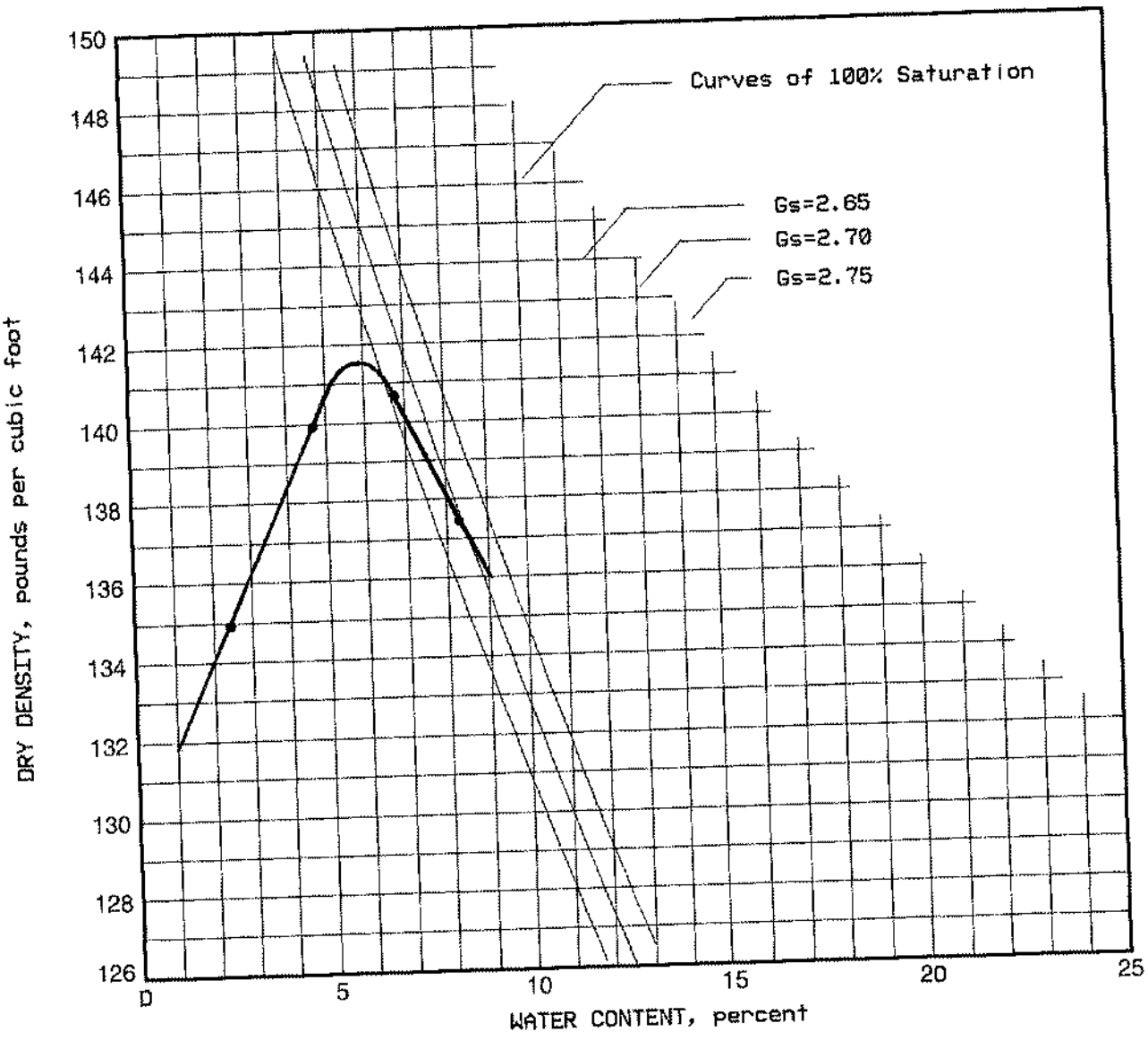
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

CONSOLIDATION TEST

PLATE

C-9



TEST DESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "C"

Sample	B-17
Depth	0 - 2
Soil Type	Sandy Gravel
Classification	GM
Maximum Dry Oensity	141.5 pcf
Optimum Water Content	6.0 %

KLEINFELDER

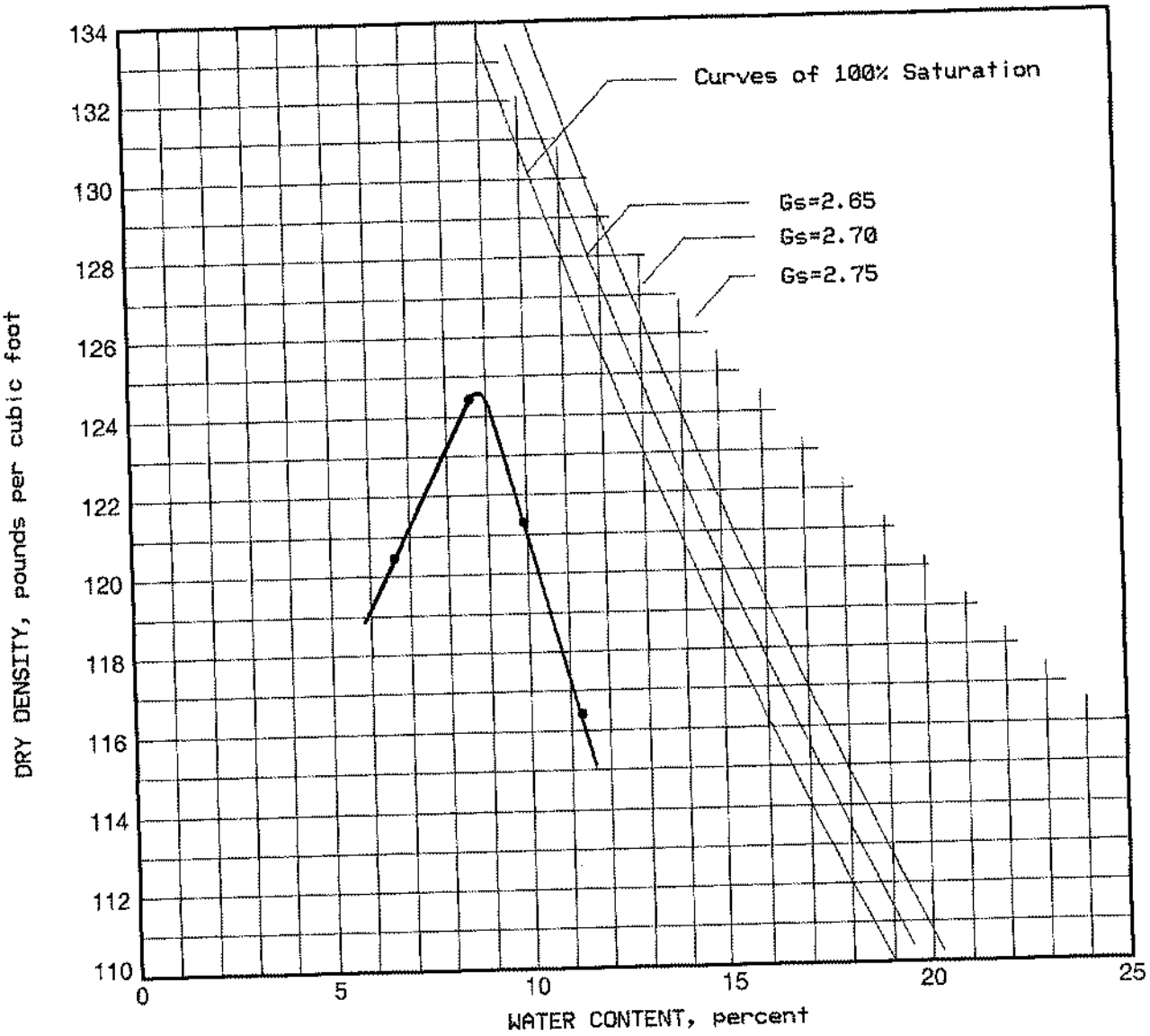
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-10



TEST OESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "A"

Sample	B-18
Depth	0 - 2
Soil Type	Silty Sand
Classification	SM
Maximum Dry Density	124.5 pcf
Optimum Water Content	8.5 %

KLEINFELDER

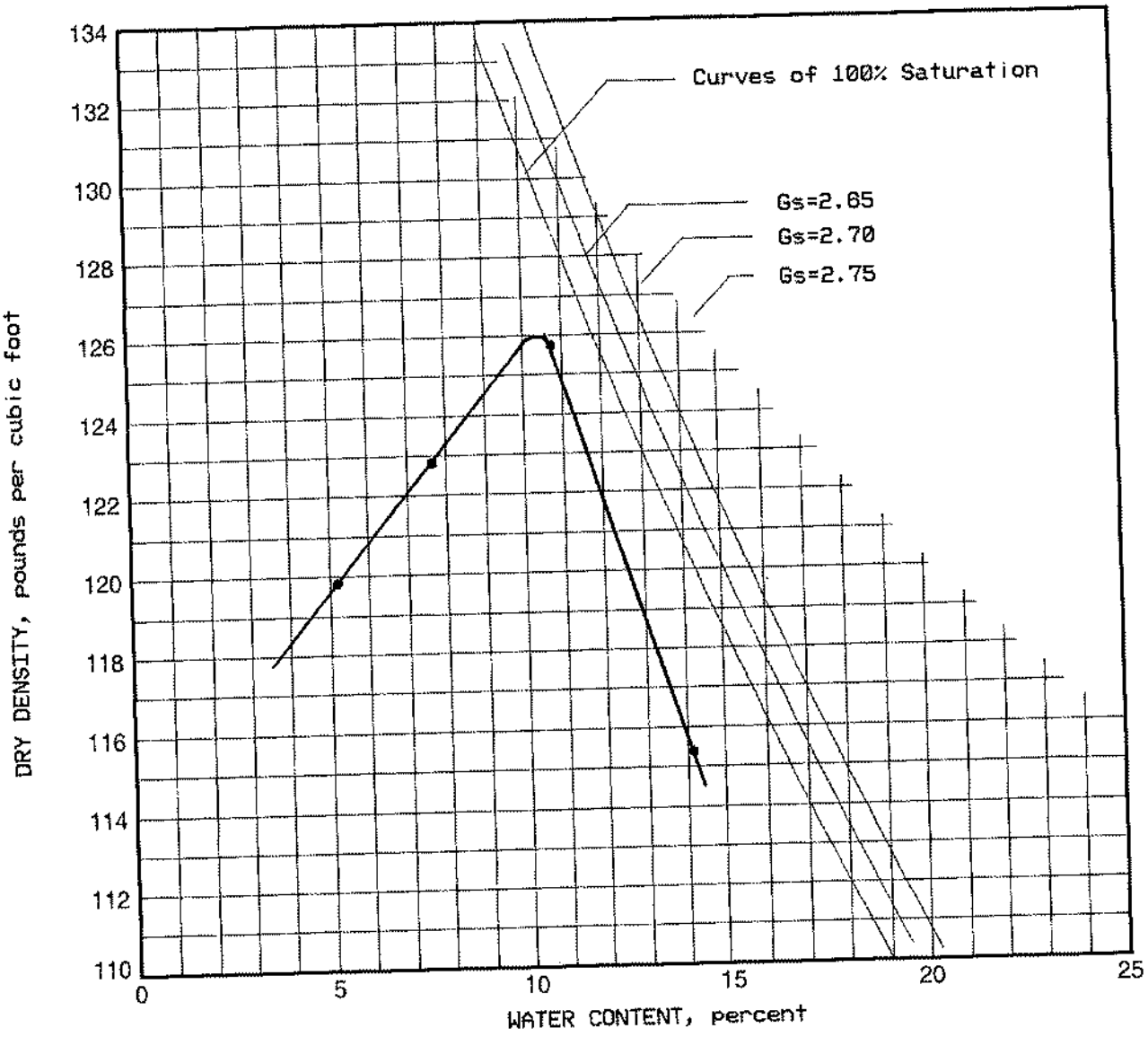
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-11



TEST DESCRIPTIDN

TEST METHOD: ASTM D-1557 METHOD "A"

Sample	B-21
Depth	0 - 2
Soil Type	Sand with Silt
Classification	SP-SM
Maximum Dry Density	126.0 pcf
Optimum Water Content	10.5 %

KLEINFELDER

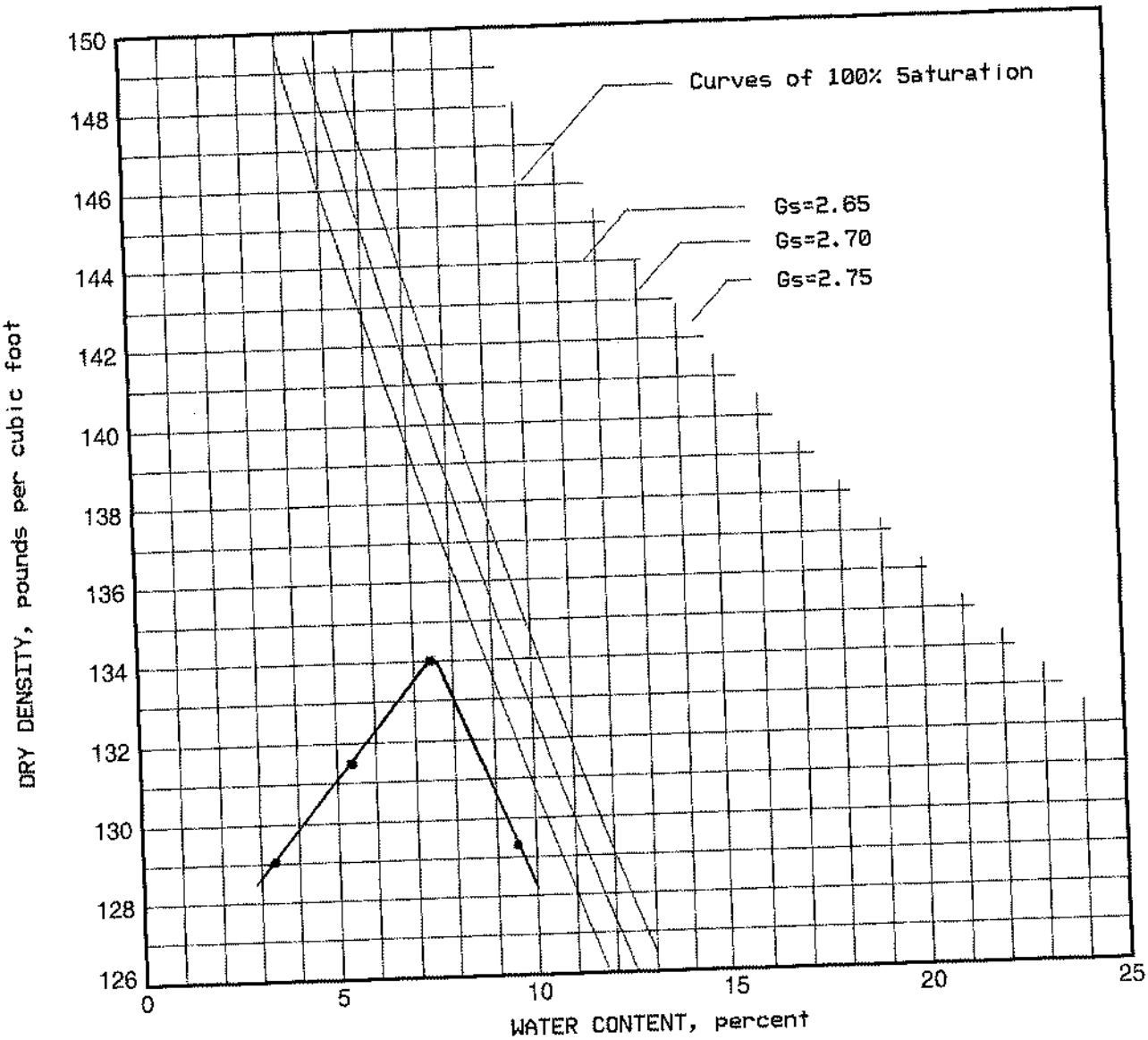
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-12



TEST DESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "B"

Sample	B-26
Depth	0 - 2
Soil Type	Silty Sand
Classification	SM
Maximum Dry Density	134.0 pcf
Optimum Water Content	7.5 %

KLEINFELDER

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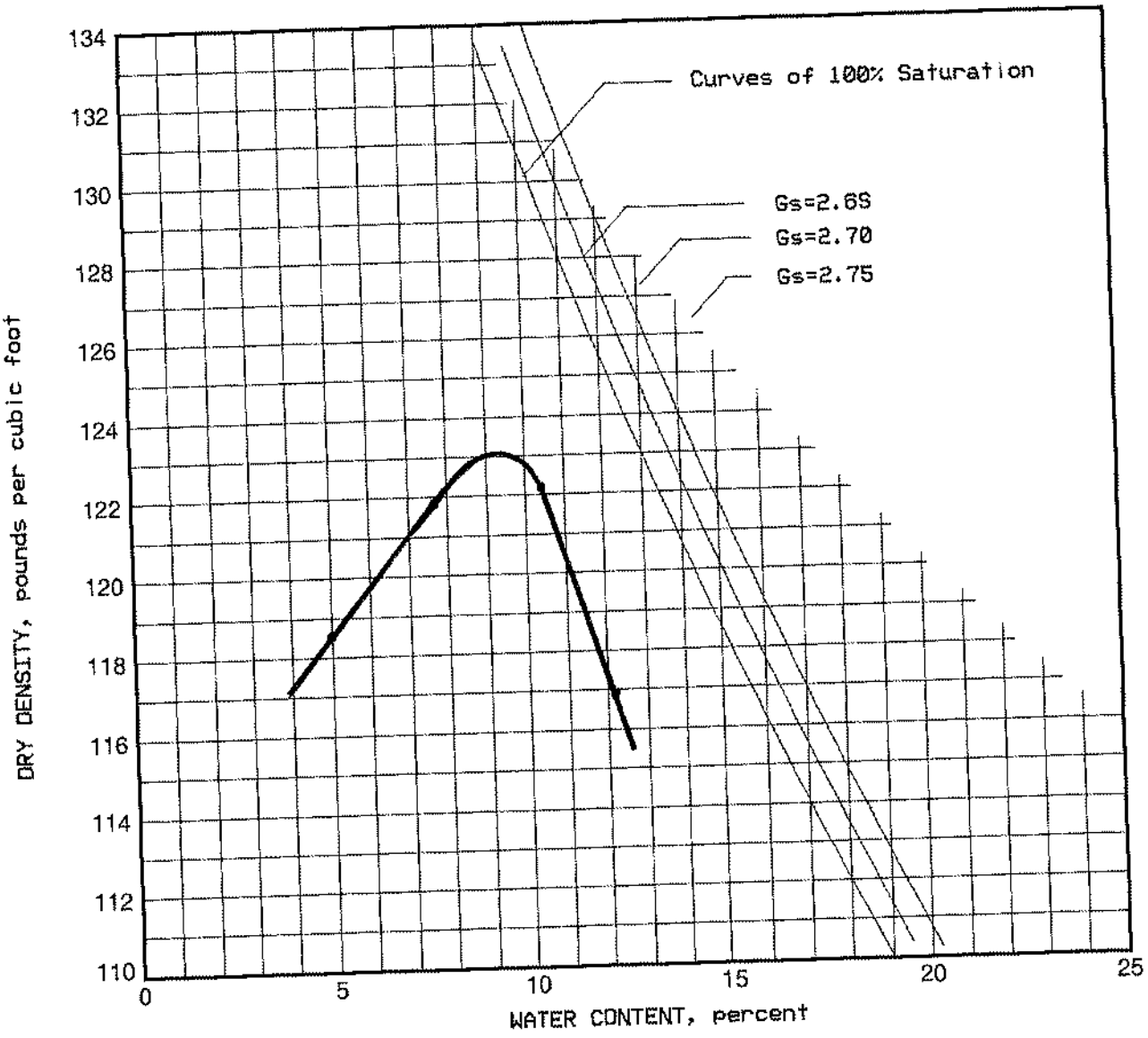
Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-13



TEST DESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "A"

Sample	B-27
Depth	0 - 3
Soil Type	Silty Sand
Classification	SM
Maximum Dry Density	123.0 pcf
Optimum Water Content	9.0 %

KLEINFELDER

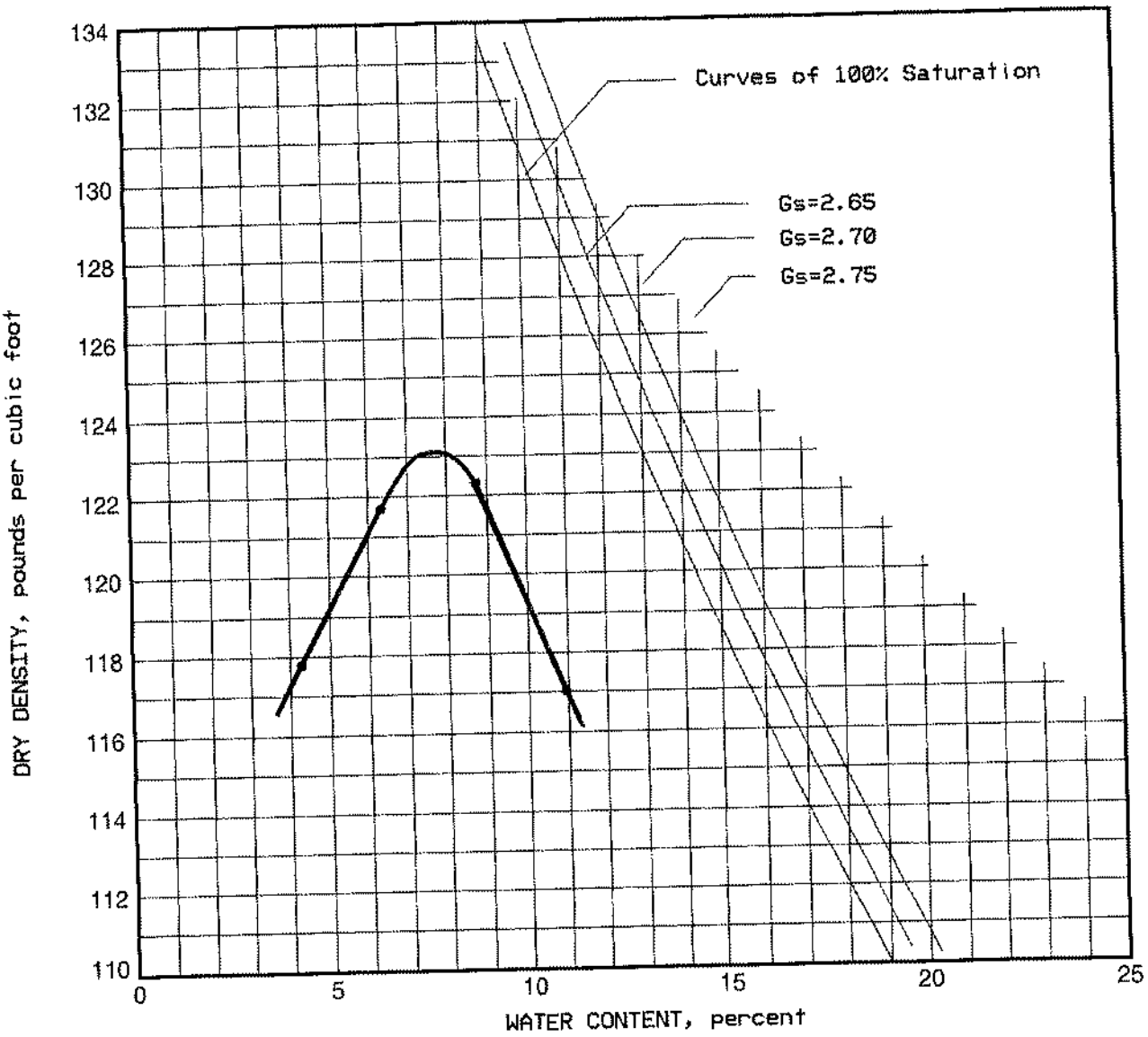
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-14



TEST OESCRIPTION

TEST METHOO: ASTM O-1557 METHOO "A"

Sample	B-28
Depth	0 - 2
Soil Type	Sand with Silt
Classification	SP-SM
Maximum Dry Density	123.0 pcf
Optimum Water Content	8.0 %

KLEINFELDER

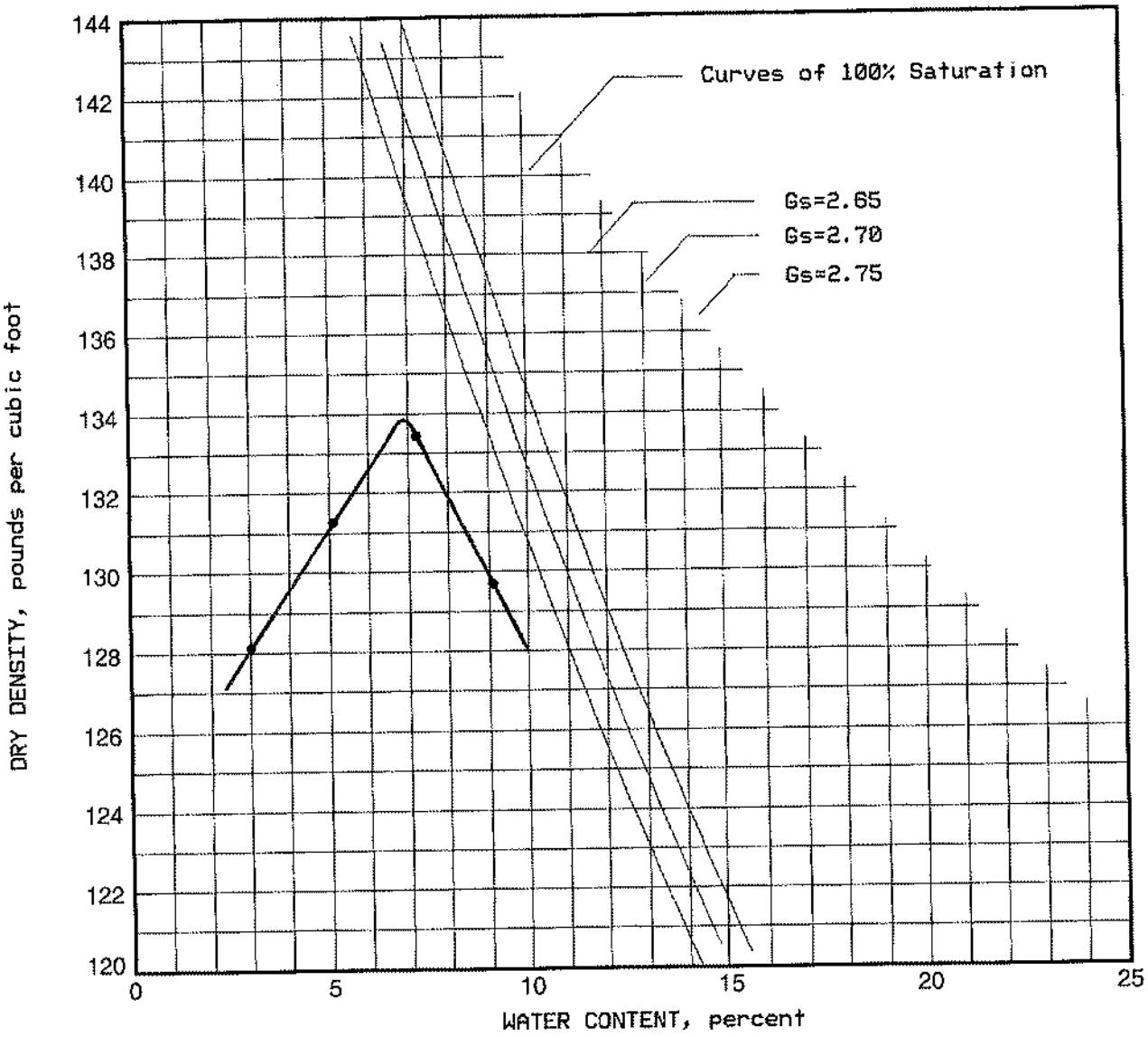
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-15



TEST DESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "B"

Sample	B-29
Depth	0 - 3
Soil Type	Silty Sand
Classification	SM
Maximum Dry Density	134.0 pcf
Optimum Water Content	7.0 %

KLEINFELDER

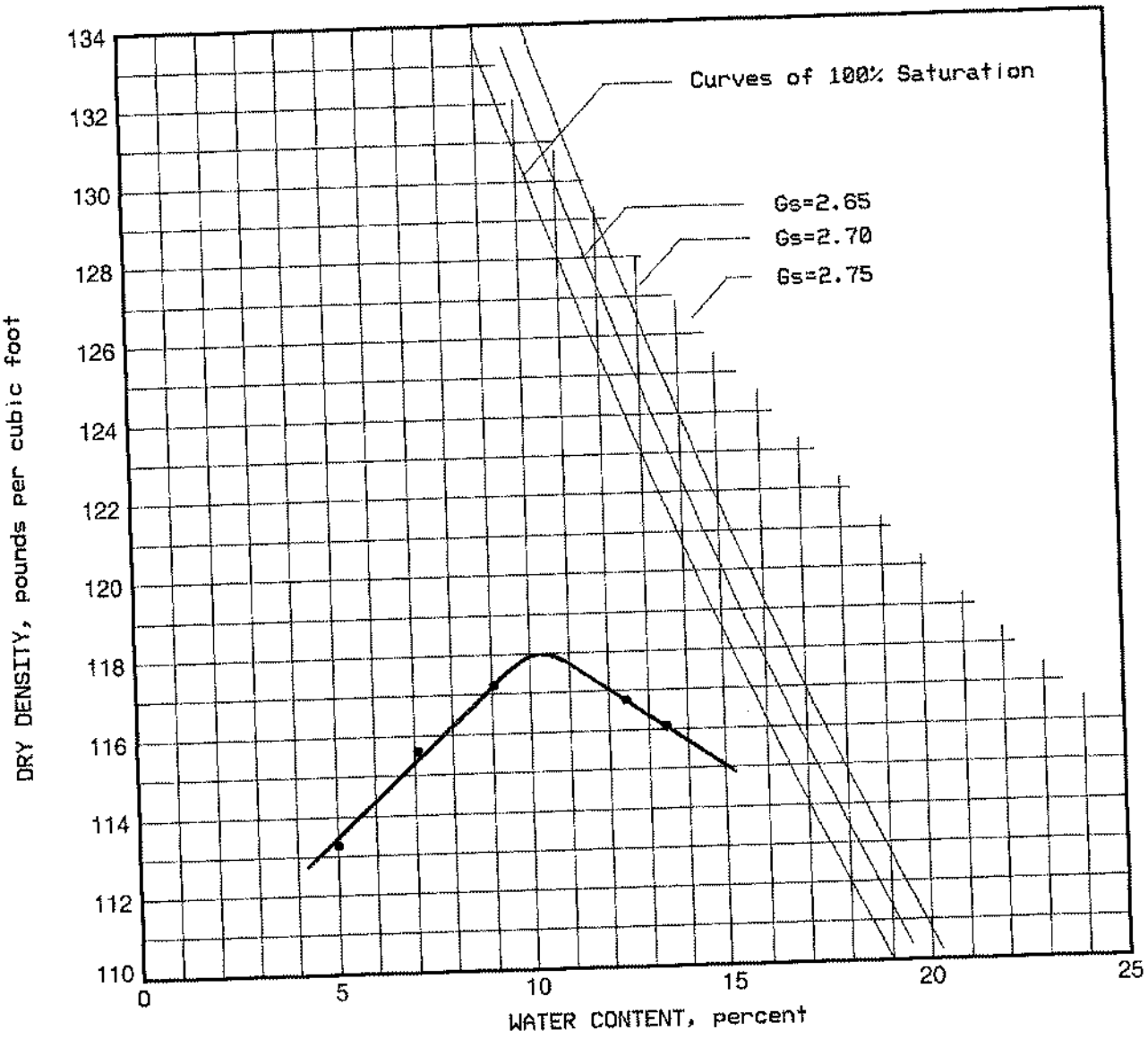
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-16



TEST OESCRIPTION

TEST METHOO: ASTM O-1557 METHOO "B"

Sample	B-34
Depth	0 - 2
Soil Type	Sand with Silt
Classification	SP-SM
Maximum Dry Density	118.0 pcf
Optimum Water Content	10.0 %

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-17

APPENDIX D

ENVIRONMENTAL FIELD ACTIVITIES AND LABORATORY TESTING

APPENDIX D
ENVIRONMENTAL FIELD ACTIVITIES AND LABORATORY TESTING

This appendix provides a description of the environmental related field activities performed at the subject site during the period from July 13 to July 15, 2003 and related environmental laboratory testing and a discussion of environmental laboratory testing results. Environmental related activities included health and safety management, collection of soil samples, chain of custody documentation, and submittal of soil samples to a State of California-certified laboratory. Work performed during the environmental sampling was in accordance with Kleinfelder's Health and Safety Plan and adhered to Kleinfelder's Standard Operating Procedures. Environmental laboratory testing results are presented and discussed in this appendix.

HEALTH AND SAFETY PLAN

Prior to initiation of field activities, Kleinfelder completed a site-specific health and safety plan. The health and safety plan included information on possible chemical hazards, physical hazards, and monitoring equipment to be used during field activities. A cellular phone was available at the subject site to facilitate potential emergency response. Additionally, a map showing the route and location of the nearest hospital was included with the site-specific health and safety plan. Field activities were performed without incident.

SOIL SAMPLE COLLECTION AND SCREENING

Samples were collected by advancing the boring to a point immediately above the desired sampling depth and then driving the sampler. Following removal from the sampling tool, the samples were capped, labeled with project/site name/number, boring reference, sample depth, sampler, date, and time of collection, and placed in an ice-chilled, insulated sample container for transportation to the designated analytical laboratory for analysis under chain-of-custody protocol.

A photo-ionization detector (PID) calibrated to a 100 parts per million (ppm) isobutylene standard was used in the field to monitor soil collected from each driven sample interval for VOC content. The PID readings are in the range of 0.0 to 227 ppm. The maximum PID reading

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was measured at depth of 20 feet below ground surface where refuse materials were encountered at boring B-20.

DECONTAMINATION

The sampling equipment utilized to collect the soil samples was either new or decontaminated prior to arrival at the subject site. The sample equipment was washed in a non-phosphate detergent (Liquinox) and distilled water wash using a brush to dislodge soil, dirt, or other encrusted materials; and following the detergent wash; the sampling equipment was double-rinsed in distilled water. The equipment was decontaminated at every boring location and at every depth of sampling in order to minimize cross-contamination. Disposable gloves were used by site personnel to handle soil samples; these gloves were changed, discarded and contained subsequent to the collection of each sample.

ENVIRONMENTAL LABORATORY TESTING RESULTS

Environmental laboratory testing results are presented and discussed below along with chain-of-custody.

Organochlorine Pesticides

Analysis for Organochlorine Pesticides was performed on 11 soil samples that were collected at 2.5 feet bgs (Table D-1). Organochlorine Pesticides were not detected in any of the samples above the Practical Quantitation Limit (PQL).

Polychlorinated Biphenyls

Analysis for Polyehlorinated Biphenyls (PCBs) was performed on same 11 samples that were tested for Organochlorine Pesticides (Table D-1). PCBs were not deteeted in any sample above the PQL.

Metals

Analysis for California Title 22 Metals was performed on 31 samples, primarily collected at 2.5 and 5-foot bgs depths (Table D-2). Concentrations of metals in soil were compared to the California Code of Regulations (CCR), Title 22, Total Threshold Limit Concentration (TTLC)

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and CCR, Title 22, Soluble Threshold Limit Concentration (STLC) values for the respective metals. The detected metal concentrations were compared to the TTLC and a value of 10 times the STLC to assess whether further analyses are warranted. If a substance equals or exceeds the TTLC level, it is considered hazardous. The 10 times STLC is a "rule of thumb" used by the environmental industry to assess whether the soil sample is a candidate for a leach test using the California Waste Extraction Test (WET). The WET method is used to assess whether the soil is classified as a California hazardous substance.

Additionally, the metals that were detected in the soil samples were also compared to the US EPA Region IX PRGs for industrial soil (October 2002). PRGs combine EPA toxicity values with standard exposure factors to estimate contaminant concentrations in environmental media (soil, air, and water) that are protective of humans over a lifetime. The exceedance of a PRG suggests that further evaluation of the potential risks that may be posed by site contaminants is appropriate. The PRG values can be used to screen pollutants in environmental media, trigger further assessment, or provide an initial cleanup goal if applicable. The PRGs for an industrial land use were used for comparison as the most applicable threshold for the subject site.

Naturally occurring arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), lead (Pb), nickel (Ni), vanadium (V), and zinc (Zn) were detected above their respective detection limits in at least one of the 31 samples tested as presented in Appendix D. The detected concentrations of metals were below the TTLC and 10 times the STLC with the exception of sample B17 @ 5 feet, which contained copper at a concentration of 319 mg/kg. A WET analysis for copper resulted on soluble lead of 0.975 milligrams per liter (mg/l), which is well below the STLC threshold of 25 mg/l.

Arsenic, detected at 2.25 mg/kg in soil sample B-15 @ 2.5 feet, was the only naturally occurring metal detected above the respective Industrial PRG of 1.6 mg/kg; however, this concentration is well within the range of background concentrations in California soils, which ranges from 0.6 to 11 mg/kg (Kearney Foundation of Soil Science Report, Background Concentrations of Trace and Major Elements in California Soils, dated March 1996).

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TABLE D-1
SOIL ANALYTICAL DATA - ORGANICS
SHELDON-ARLETA LANDFILL
LOS ANGELES, CALIFORNIA

Boring	Sample Number	Sample Date	Sample Depth	Organochlorine Pesticides	DDE	DDD	DDT	Chlordane	PCBs
			(feet)		8081A (ug/kg)	8081A (ug/kg)	8081A (ug/kg)	8081A (ug/kg)	8082 (ug/kg)
B-15	B-15 @ 2.5	7/13/2004	2.5		ND	ND	ND	ND	ND
	B-15 @ 5	7/13/2004	5		---	---	---	---	---
	B-15 @ 10	7/13/2004	10		---	---	---	---	---
	B-15 @ 15	7/13/2004	15		---	---	---	---	---
	B-15 @ 20	7/13/2004	20		---	---	---	---	---
B-16	B-16 @ 2.5	7/15/2004	2.5		ND	ND	ND	ND	ND
	B-16 @ 5	7/15/2004	5		---	---	---	---	---
	B-16 @ 10	7/15/2004	10		---	---	---	---	---
B-17	B-17 @ 2.5	7/13/2004	2.5		ND	ND	ND	ND	ND
	B-17 @ 5	7/13/2004	5		---	---	---	---	---
	B-17 @ 10	7/13/2004	10		---	---	---	---	---
	B-17 @ 15	7/13/2004	15		---	---	---	---	---
	B-17 @ 20	7/13/2004	20		---	---	---	---	---
B-18	B-18 @ 2.5	7/13/2004	2.5		---	---	---	---	---
	B-18 @ 5	7/13/2004	5		---	---	---	---	---
	B-18 @ 10	7/13/2004	10		---	---	---	---	---
	B-18 @ 15	7/13/2004	15		---	---	---	---	---
	B-18 @ 20	7/13/2004	20		---	---	---	---	---
B-19	B-19 @ 2.5	7/15/2004	2.5		---	---	---	---	---
	B-19 @ 5	7/15/2004	5		---	---	---	---	---
	B-19 @ 10	7/15/2004	10		---	---	---	---	---
	B-19 @ 15	7/15/2004	15		---	---	---	---	---
	B-19 @ 20	7/15/2004	20		---	---	---	---	---
B-20	B-20 @ 2.5	7/15/2004	2.5		---	---	---	---	---
	B-20 @ 5	7/15/2004	5		---	---	---	---	---
	B-20 @ 10	7/15/2004	10		---	---	---	---	---
	B-20 @ 15	7/15/2004	15		---	---	---	---	---
	B-20 @ 20	7/15/2004	20		---	---	---	---	---
B-21	B-21 @ 2.5	7/14/2004	2.5		---	---	---	---	---
	B-21 @ 5	7/14/2004	5		---	---	---	---	---
	B-21 @ 10	7/14/2004	10		---	---	---	---	---
	B-21 @ 15	7/14/2004	15		---	---	---	---	---
	B-21 @ 20	7/14/2004	20		---	---	---	---	---

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TABLE D-1
SOIL ANALYTICAL DATA - ORGANICS
SHELDON-ARLETA LANDFILL
LOS ANGELES, CALIFORNIA

Boring	Sample Number	Sample Date	Sample Depth		Organochlorine Pesticides					PCBs
					DDE	DDD	DDT	Chlordane		
			(feet)		8081A (ug/kg)	8081A (ug/kg)	8081A (ug/kg)	8081A (ug/kg)		8082 (ug/kg)
B-22	B-22 @ 2.5	7/14/2004	2.5		ND	ND	ND	ND		ND
	B-22 @ 5	7/14/2004	5		---	---	---	---		---
	B-22 @ 10	7/14/2004	10		---	---	---	---		---
	B-22 @ 15	7/14/2004	15		---	---	---	---		---
	B-22 @ 20	7/14/2004	20		---	---	---	---		---
B-23	B-23 @ 2.5	7/15/2004	2.5		ND	ND	ND	ND		ND
	B-23 @ 5	7/15/2004	5		---	---	---	---		---
	B-23 @ 10	7/15/2004	10		---	---	---	---		---
	B-23 @ 15	7/15/2004	15		---	---	---	---		---
	B-23 @ 20	7/15/2004	20		---	---	---	---		---
B-24	B-24 @ 2.5	7/14/2004	2.5		ND	ND	ND	ND		ND
	B-24 @ 5	7/14/2004	5		---	---	---	---		---
	B-24 @ 10	7/14/2004	10		---	---	---	---		---
	B-24 @ 15	7/14/2004	15		---	---	---	---		---
	B-24 @ 20	7/14/2004	20		---	---	---	---		---
B-25	B-25 @ 2.5	7/14/2004	2.5		ND	ND	ND	ND		ND
	B-25 @ 5	7/14/2004	5		---	---	---	---		---
	B-25 @ 10	7/14/2004	10		---	---	---	---		---
	B-25 @ 15	7/14/2004	15		---	---	---	---		---
	B-25 @ 20	7/14/2004	20		---	---	---	---		---
B-26	B-26 @ 2.5	7/14/2004	2.5		---	---	---	---		---
	B-26 @ 5	7/14/2004	5		---	---	---	---		---
	B-26 @ 10	7/14/2004	10		---	---	---	---		---
	B-26 @ 20	7/14/2004	20		---	---	---	---		---
B-27	B-27 @ 2.5	7/14/2004	2.5		---	---	---	---		---
	B-27 @ 5	7/14/2004	5		---	---	---	---		---
	B-27 @ 10	7/14/2004	10		---	---	---	---		---
	B-27 @ 15	7/14/2004	15		---	---	---	---		---
	B-27 @ 20	7/14/2004	20		---	---	---	---		---
B-28	B-28 @ 2.5	7/14/2004	2.5		---	---	---	---		---
	B-28 @ 10	7/14/2004	10		---	---	---	---		---
	B-28 @ 15	7/14/2004	15		---	---	---	---		---
	B-28 @ 20	7/14/2004	20		---	---	---	---		---

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TABLE D-1
SOIL ANALYTICAL DATA - ORGANICS
SHELDON-ARLETA LANDFILL
LOS ANGELES, CALIFORNIA

Boring	Sample Number	Sample Date	Sample Depth		Organochlorine Pesticides					PCBs
					DDE	DDD	DDT	Chlordane		
			(feet)		8081A (ug/kg)	8081A (ug/kg)	8081A (ug/kg)	8081A (ug/kg)		8082 (ug/kg)
B-29	B-29 @ 2.5	7/13/2004	2.5		ND	ND	ND	ND		ND
	B-29 @ 5	7/13/2004	5		---	---	---	---		---
	B-29 @ 10	7/13/2004	10		---	---	---	---		---
	B-29 @ 15	7/13/2004	15		---	---	---	---		---
	B-29 @ 20	7/13/2004	20		---	---	---	---		---
B-30	B-30 @ 2.5	7/13/2004	2.5		ND	ND	ND	ND		ND
	B-30 @ 5	7/13/2004	5		---	---	---	---		---
	B-30 @ 10	7/13/2004	10		---	---	---	---		---
	B-30 @ 15	7/13/2004	15		---	---	---	---		---
	B-30 @ 20	7/13/2004	20		---	---	---	---		---
B-31	B-31 @ 2.5	7/13/2004	2.5		ND	ND	ND	ND		ND
	B-31 @ 5	7/13/2004	5		---	---	---	---		---
	B-31 @ 15	7/13/2004	15		---	---	---	---		---
	B-31 @ 20	7/13/2004	20		---	---	---	---		---
B-32	B-32 @ 2.5	7/13/2004	2.5		---	---	---	---		---
	B-32 @ 5	7/13/2004	5		---	---	---	---		---
	B-32 @ 10	7/13/2004	10		---	---	---	---		---
	B-32 @ 15	7/13/2004	15		---	---	---	---		---
B-33	B-33 @ 5	7/13/2004	5		---	---	---	---		---
	B-33 @ 10	7/13/2004	10		---	---	---	---		---
	B-33 @ 15	7/13/2004	15		---	---	---	---		---
	B-33 @ 20	7/13/2004	20		---	---	---	---		---
B-34	B-34 @ 2.5	7/14/2004	2.5		ND	ND	ND	ND		ND
	B-34 @ 5	7/14/2004	5		---	---	---	---		---
	B-34 @ 10	7/14/2004	10		---	---	---	---		---
	B-34 @ 15	7/14/2004	15		---	---	---	---		---
	B-34 @ 20	7/14/2004	20		---	---	---	---		---
PRG - Residential					2,400	1,700	1,700	1,600		
PRG - Industrial					10,000	7,000	7,000	6,500		

Notes:

ND The concentration is below the reported practical quantitation limit or Not Detected.
--- Sample not analyzed.
United States Environmental Protection Agency Analytical Method Number.
mg/kg Concentration in milligrams per kilogram
ug/kg Concentration in micrograms per kilogram
PRG Preliminary Remediation Goal - US EPA Region IX, October 1, 2002
NL Not Listed

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TABLE D-2
SOIL ANALYTICAL DATA - METALS
SHELDON-ARLETA LANDFILL
LOS ANGELES, CALIFORNIA

Boring	Sample Number	Sample Date	Sample Depth	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Copper (STLC by WET)	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			(feet)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/L)	6010B (mg/kg)	7471A (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)
B-15	B-15 @ 2.5	7/13/2004	2.5	ND	2.25	131	ND	ND	19.2	5.5	67.0	---	13.0	ND	ND	13.1	ND	ND	ND	39.2	110
	B-15 @ 5	7/13/2004	5	ND	ND	97.0	ND	ND	15.2	3.82	28.8	---	6.13	ND	ND	9.00	ND	ND	ND	31.9	64.1
	B-15 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-15 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-15 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-16	B-16 @ 2.5	7/15/2004	2.5	ND	1.12	86.0	ND	1.03	15.0	2.96	18.8	---	2.96	ND	ND	14.3	ND	ND	ND	41.1	48.8
	B-16 @ 5	7/15/2004	5	ND	1.26	94.0	ND	0.715	17.6	3.74	12.9	---	4.84	ND	ND	12.5	ND	ND	ND	39.1	44.0
	B-16 @ 10	7/15/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-17	B-17 @ 2.5	7/13/2004	2.5	ND	ND	112	ND	ND	5.87	3.92	218	---	0.947	ND	ND	4.37	ND	ND	ND	20.8	55.7
	B-17 @ 5	7/13/2004	5	ND	ND	89.5	ND	ND	10.5	3.76	319	0.975	1.41	ND	ND	5.03	ND	ND	ND	19.5	66.6
	B-17 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-17 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-17 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-18	B-18 @ 2.5	7/13/2004	2.5	ND	1.33	122	ND	1.33	20.3	4.75	35.4	---	11.3	ND	ND	19.7	ND	ND	ND	48.1	88.4
	B-18 @ 5	7/13/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-18 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-18 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-18 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-19	B-19 @ 2.5	7/15/2004	2.5	ND	0.786	159	ND	0.800	29.6	7.40	24.0	---	9.68	ND	ND	19.8	ND	ND	ND	50.8	68.9
	B-19 @ 5	7/15/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-19 @ 10	7/15/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-19 @ 15	7/15/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-19 @ 20	7/15/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-20	B-20 @ 2.5	7/15/2004	2.5	ND	1.31	116	ND	0.832	28.6	4.44	15.3	---	3.34	ND	ND	18.9	ND	ND	ND	48.8	49.9
	B-20 @ 5	7/15/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-20 @ 10	7/15/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-20 @ 15	7/15/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-20 @ 20	7/15/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-21	B-21 @ 2.5	7/14/2004	2.5	ND	ND	72.0	ND	ND	11.6	3.82	10.5	---	2.90	ND	ND	8.86	ND	ND	ND	23.6	35.2
	B-21 @ 5	7/14/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-21 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-21 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-21 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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TABLE D-2
SOIL ANALYTICAL DATA - METALS
SHELDON-ARLETA LANDFILL
LOS ANGELES, CALIFORNIA

Boring	Sample Number	Sample Date	Sample Depth	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Copper (STLC by WET)	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			(feet)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/L)	6010B (mg/kg)	7471A (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)
B-22	B-22 @ 2.5	7/14/2004	2.5	ND	ND	47.3	ND	ND	5.14	2.18	5.72	---	1.09	ND	ND	3.52	ND	ND	ND	15.0	20.7
	B-22 @ 5	7/14/2004	5	ND	0.638	21.7	ND	ND	2.09	1.01	4.58	---	ND	ND	ND	ND	ND	ND	ND	6.81	12.5
	B-22 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-22 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-22 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-23	B-23 @ 2.5	7/15/2004	2.5	ND	ND	58.3	ND	ND	5.53	2.76	13.2	---	1.11	ND	ND	3.97	ND	ND	ND	20.7	29.1
	B-23 @ 5	7/15/2004	5	ND	ND	50.7	ND	ND	6.32	2.28	8.45	---	1.58	ND	ND	3.59	ND	ND	ND	19.5	24.1
	B-23 @ 10	7/15/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-23 @ 15	7/15/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-23 @ 20	7/15/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-24	B-24 @ 2.5	7/14/2004	2.5	ND	ND	75.5	ND	ND	6.40	3.52	16.0	---	2.33	ND	ND	5.14	ND	ND	ND	18.1	30.3
	B-24 @ 5	7/14/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-24 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-24 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-24 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-25	B-25 @ 2.5	7/14/2004	2.5	ND	ND	92.3	ND	ND	13.7	4.34	15.8	---	12.5	ND	ND	9.89	ND	ND	ND	26.0	50.9
	B-25 @ 5	7/14/2004	5	ND	ND	116	ND	ND	14.5	6.13	16.2	---	1.69	ND	ND	10.7	ND	ND	ND	33.9	50.1
	B-25 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-25 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-25 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-26	B-26 @ 2.5	7/14/2004	2.5	ND	ND	126	ND	0.698	11.1	3.93	30.1	---	42.3	ND	ND	8.33	ND	ND	ND	24.3	123
	B-26 @ 5	7/14/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-26 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-26 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-27	B-27 @ 2.5	7/14/2004	2.5	ND	ND	57.6	ND	ND	7.03	2.89	7.59	---	0.955	ND	ND	4.90	ND	ND	ND	19.2	25.4
	B-27 @ 5	7/14/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-27 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-27 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-27 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-28	B-28 @ 2.5	7/14/2004	2.5	ND	0.911	100	ND	ND	11.6	4.33	14.2	---	18.4	ND	ND	8.04	ND	ND	ND	26.1	59.5
	B-28 @ 10	7/14/2004	10	ND	ND	38.5	ND	ND	5.70	1.92	81.5	---	2.36	ND	ND	3.53	ND	ND	ND	16.2	67.3
	B-28 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-28 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-29	B-29 @ 2.5	7/13/2004	2.5	ND	ND	97.5	ND	ND	12.6	5.08	12.6	---	7.93	ND	ND	8.99	ND	ND	ND	34.1	49.9
	B-29 @ 5	7/13/2004	5	ND	0.928	42.3	ND	ND	3.90	1.95	12.5	---	0.906	ND	ND	2.93	ND	ND	ND	13.1	25.8
	B-29 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-29 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-29 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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TABLE D-2
SOIL ANALYTICAL DATA - METALS
SHELDON-ARLETA LANDFILL
LOS ANGELES, CALIFORNIA

Boring	Sample Number	Sample Date	Sample Depth	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Copper (STLC by WET)	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			(feet)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/L)	6010B (mg/kg)	7471A (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)	6010B (mg/kg)
B-30	B-30 @ 2.5	7/13/2004	2.5	ND	0.521	62.6	ND	ND	7.06	3.37	32.9	---	1.50	ND	ND	5.09	ND	ND	ND	21.2	32.5
	B-30 @ 5	7/13/2004	5	ND	ND	44.0	ND	ND	4.09	2.56	5.50	---	1.19	ND	ND	3.06	ND	ND	ND	16.2	18.6
	B-30 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-30 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-30 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-31	B-31 @ 2.5	7/13/2004	2.5	ND	0.509	82.5	ND	ND	9.87	4.23	12.6	---	4.74	ND	ND	6.97	ND	ND	ND	28.9	45.0
	B-31 @ 5	7/13/2004	5	ND	ND	51.5	ND	ND	4.93	2.29	9.82	---	0.932	ND	ND	3.46	ND	ND	ND	15.5	23.6
	B-31 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-31 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-32	B-32 @ 2.5	7/13/2004	2.5	ND	ND	116	ND	ND	11.8	5.52	14.7	---	1.51	ND	ND	8.84	ND	ND	ND	33.3	55.1
	B-32 @ 5	7/13/2004	5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-32 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-32 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-33	B-33 @ 5	7/13/2004	5	ND	ND	56.1	ND	ND	4.65	2.76	8.00	---	0.970	ND	ND	3.64	ND	ND	ND	19.9	25.6
	B-33 @ 10	7/13/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-33 @ 15	7/13/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-33 @ 20	7/13/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-34	B-34 @ 2.5	7/14/2004	2.5	ND	ND	81.9	ND	ND	11.1	4.16	11.8	---	5.38	ND	ND	7.48	ND	ND	ND	25.7	44.3
	B-34 @ 5	7/14/2004	5	ND	ND	47.1	ND	ND	4.50	2.22	11.0	---	0.800	ND	ND	3.88	ND	ND	ND	15.1	39.8
	B-34 @ 10	7/14/2004	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-34 @ 15	7/14/2004	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	B-34 @ 20	7/14/2004	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	STLC			15	5	100	0.75	1	560/5	80	25	25	5	0.2	350	20	1	5	7	24	250
	TTLC			500	500	10000	75	100	2500	8000	2500		1000	20	3500	2000	100	500	700	2400	5000
PRG	Residential			31	0.39	5400	150	37	210	900	3100		400	23	390	1600	390	390	5.2	550	23000
	Industrial			410	1.6	67000	1900	450	450	1900	41000		750	310	5100	20000	5100	5100	67	7200	100000

Notes:

ND	The concentration is below the reported practical quantitation limit or Not Detected.
---	Sample not analyzed.
6010B	United States Environmental Protection Agency Analytical Method Number.
mg/kg	Concentration in milligrams per kilogram
mg/L	Concentration in milligrams per liter
STLC	Soluble Threshold Limit Concentration
TTLC	Total Threshold Limit Concentration
PRG	Preliminary Remediation Goal, US EPA Region IX, October 1,2002

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Tel(909)396-0335 Fax(909)396-1324

Project Name: **GED Sheldon - Arleta**
Project #: **46824**
Enviro-Chem Lab I.D.: 040714-1 through -37

Dear Mr. Johnson:

The analytical results for the soil samples, received by our Lab on July 14, 2004, are attached. All samples were received chilled, intact and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manager

Jesse Tu, Ph.D.
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B17-2½

LAB I.D.: 040714-1

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
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Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B15-2½

LAB I.D.: 040714-11

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X10*)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4 4'-DDD	ND	0.001
4 4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldeh de	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methox clor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
* = PQL raised due to matrix interference
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
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Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B31-2½

LAB I.D.: 040714-24

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL (X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4 4'-DDD	ND	0.001
4 4'-DDE	ND	0.001
4 4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
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1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

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Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
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DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B29-2½

LAB I.D.: 040714-28

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X10*)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4 4'-DDD	ND	0.001
4 4'-DDE	ND	0.001
4 4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
* = PQL raised due to matrix interference
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B30-2½

LAB I.D.: 040714-33

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

METHOD BLANK FOR LAB I.D.: 040714-1, -11, -24, -28, -33

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4 4'-DDD	ND	0.001
4 4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221 V	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro-Chem, Inc.

1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

EPA 8081 QA/QC Report

Matrix: **Soil** Date Analyzed: 7/17/2004

Unit: mg/Kg

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: **040716-LCS1/2**

Analyte	S.R.	spk conc	MS	%REC	MSD	%REC	%RPD	ACP %RPD	ACP %REC
Gamma-BHC	0.000	0.050	0.0502	**100%**	0.0460	**92%**	**9%**	**0-20%**	**70-130**
Aldrin	0.000	0.050	0.0508	**102%**	0.0524	**105%**	**3%**	**0-20%**	**70-130**
4,4-DDE	0.000	0.050	0.0545	**109%**	0.0559	**112%**	**3%**	**0-20%**	**70-130**

Lab Control Spike (LCS) Recovery:

Analyte	spk conc	LCS	% REC	ACP %REC
Gamma-BHC	0.0050	0.00456	**91%**	**75-125**
Aldrin	0.0050	0.00492	**98%**	**75-125**
4,4-DDE	0.0050	0.00540	**108%**	**75-125**
Dieldrin	0.0050	0.00526	**105%**	**75-125**

Surrogate Recovery	ACP%	MB	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.			0714-01	0714-11	0714-24	0714-28	0714-33	0715-23
Tetra-chloro-meta-xylene	50-150	133%	122%	120%	128%	123%	126%	127%
Decachlorobipneyl	50-150	137%	127%	119%	146%	122%	133%	135%

Surrogate Recovery	%REC	%REC	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.	0715-28	0715-38	0715-43	0715-88	0715-98			
Tetra-chloro-meta-xylene	124%	131%	125%	125%	136%			
Decachlorobipneyl	129%	142%	128%	126%	146%			

Surrogate Recovery	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.						
Tetra-chloro-meta-xylene						
Decachlorobipneyl						

S.R. = Sample Result

spk conc = Spike Concentration

%REC = Percent Recovery

ACP %RPD = Acceptable Percent RPD Range

ACP %REC = Acceptable Percent Recovery Range

** = Surrogate fail due to matrix interference (If Marked)*

Note: *LCS, MS, MSD are in control therefore results are in control.*

Analyzed and Reviewed By: _____

Final Reviewer: _____

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

QA/QC Report

Analysis: EPA 8082 (PCB)

Matrix: **Solid** Date Analyzed: **7/16-17/2004**

Unit: mg/Kg (PPM)

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 040715-43

Analyte	spk conc	MS	%REC	MSD	%REC	%RPD	ACP % RPD	ACP %REC
PCB (1016+1260)	0.500	0.602	**120%**	0.596	**119%**	**1%**	**0-20%**	**70-130**

LCS STD RECOVERY:

Analyte	spk conc	LCS	% REC	ACP %REC
PCB (1016+1260)	0.050	0.0593	**119%**	**75-125**

spk conc = Spike Concentration
%REC = Percent Recovery
ACP %RPD = Acceptable Percent RPD Range
ACP %REC = Acceptable Percent Recovery Range

Analyzed and Reviewed By: _____

Final Reviewer: _____

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
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Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B17-2½

LAB I.D.: 040714-1

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	112	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	5.87	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.92	1.0	1	8,000	80	6010B
Copper(Cu)	218	1.0	1	2,500	25	6010B
Lead(Pb)	0.947	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	4.37	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	20.8	5.0	1	2,400	24	6010B
Zinc(Zn)	55.7	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

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Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B17-5

LAB I.D.: 040714-2

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	89.5	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	10.5	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.76	1.0	1	8,000	80	6010B
Copper(Cu)	319 *	1.0	1	2,500	25	6010B
Lead(Pb)	1.41	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	5.03	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	19.5	5.0	1	2,400	24	6010B
Zinc(Zn)	66.6	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

CUSTOMER: Kleinfelder
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PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B18-2½

LAB I.D.: 040714-6

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	1.33	0.5	1	500	5.0	6010B
Barium(Ba)	122	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	1.33	0.5	1	100	1.0	6010B
Chromium Total(Cr)	20.3	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	4.75	1.0	1	8,000	80	6010B
Copper(Cu)	35.4	1.0	1	2,500	25	6010B
Lead(Pb)	11.3	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	19.7	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	48.1	5.0	1	2,400	24	6010B
Zinc(Zn)	88.4	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B15-2½

LAB I.D.: 040714-11

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	2.25	0.5	1	500	5.0	6010B
Barium(Ba)	131	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	19.2	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	5.50	1.0	1	8,000	80	6010B
Copper(Cu)	67.0	1.0	1	2,500	25	6010B
Lead(Pb)	13.0	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	13.1	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	39.2	5.0	1	2,400	24	6010B
Zinc(Zn)	110	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B15-5

LAB I.D.: 040714-12

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	97.0	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	15.2	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.82	1.0	1	8,000	80	6010B
Copper(Cu)	28.8	1.0	1	2,500	25	6010B
Lead(Pb)	6.13	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	9.00	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	31.9	5.0	1	2,400	24	6010B
Zinc(Zn)	64.1	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B32-2½

LAB I.D.: 040714-16

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	116	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	11.8	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	5.52	1.0	1	8,000	80	6010B
Copper(Cu)	14.7	1.0	1	2,500	25	6010B
Lead(Pb)	1.51	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	8.84	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	33.3	5.0	1	2,400	24	6010B
Zinc(Zn)	55.1	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B33-5

LAB I.D.: 040714-20

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	56.1	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	4.65	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.76	1.0	1	8,000	80	6010B
Copper(Cu)	8.00	1.0	1	2,500	25	6010B
Lead(Pb)	0.970	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.64	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	19.9	5.0	1	2,400	24	6010B
Zinc(Zn)	25.6	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B31-2½

LAB I.D.: 040714-24

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	0.509	0.5	1	500	5.0	6010B
Barium(Ba)	82.5	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	9.87	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	4.23	1.0	1	8,000	80	6010B
Copper(Cu)	12.6	1.0	1	2,500	25	6010B
Lead(Pb)	4.74	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	6.97	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	28.9	5.0	1	2,400	24	6010B
Zinc(Zn)	45.0	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B31-5

LAB I.D.: 040714-25

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	51.5	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	4.93	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.29	1.0	1	8,000	80	6010B
Copper(Cu)	9.82	1.0	1	2,500	25	6010B
Lead(Pb)	0.932	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.46	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	15.5	5.0	1	2,400	24	6010B
Zinc(Zn)	23.6	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B29-2½

LAB I.D.: 040714-28

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	97.5	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	12.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	5.08	1.0	1	8,000	80	6010B
Copper(Cu)	12.6	1.0	1	2,500	25	6010B
Lead(Pb)	7.93	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	8.99	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	34.1	5.0	1	2,400	24	6010B
Zinc(Zn)	49.9	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B29-5

LAB I.D.: 040714-29

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	0.928	0.5	1	500	5.0	6010B
Barium(Ba)	42.3	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	3.90	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	1.95	1.0	1	8,000	80	6010B
Copper(Cu)	12.5	1.0	1	2,500	25	6010B
Lead(Pb)	0.906	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	2.93	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	13.1	5.0	1	2,400	24	6010B
Zinc(Zn)	25.8	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B30-2½

LAB I.D.: 040714-33

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	0.521	0.5	1	500	5.0	6010B
Barium(Ba)	62.6	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	7.06	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.37	1.0	1	8,000	80	6010B
Copper(Cu)	32.9	1.0	1	2,500	25	6010B
Lead(Pb)	1.50	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	5.09	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	21.2	5.0	1	2,400	24	6010B
Zinc(Zn)	32.5	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B30-5

LAB I.D.: 040714-34

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	44.0	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	4.09	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.56	1.0	1	8,000	80	6010B
Copper(Cu)	5.50	1.0	1	2,500	25	6010B
Lead(Pb)	1.19	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.06	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	16.2	5.0	1	2,400	24	6010B
Zinc(Zn)	18.6	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/15/04
DATE REPORTED: 07/21/04

METHOD BLANK FOR LAB I.D.:
040714-1, -2, -6, -11, -12, -16, -20, -24, -25, -28, -29, -33, -34

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	ND	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	ND	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	ND	1.0	1	8,000	80	6010B
Copper(Cu)	ND	1.0	1	2,500	25	6010B
Lead(Pb)	ND	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	ND	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	ND	5.0	1	2,400	24	6010B
Zinc(Zn)	ND	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR, TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Lab I.D.: 040714-1~37 (13)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

Unit: Mg/Kg (ppm)

ANALYSIS DATE. : 07/15/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
ARSENIC (As)	040713-53	1.00	100	PASS	0.588	50	47.9	95%	48.9	97%	2%
Chromium (Cr)	040713-53	1.00	102	PASS	16.8	50	61.2	89%	63.4	93%	5%
LEAD (Pb)	040713-53	1.00	106	PASS	3.610	50	45.8	84%	46.9	87%	3%

ANALYSIS DATE. : 07/15/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	040715-49	0.500	99	PASS	0	0.300	0.307	102%	0.300	100%	2%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
ARSENIC (As)	PASS	PASS	PASS	PASS
LEAD (Pb)	PASS	PASS	PASS	PASS
Chromium (Cr)	PASS	PASS	PASS	PASS
MERCURY (Hg)	PASS	PASS	PASS	PASS
Accepted Range%	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: JOE SU

FINAL REVIEWER: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: July 26, 2004

Mr. George Johnson
Kleinfelder
1370 Valley Vista Drive
Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

Project Name: **GED Sheldon - Arleta; Additional STLC-Cu**
Project #: **46824**
Enviro-Chem Lab I.D.: 040714-1 through -37

Dear Mr. Johnson:

The analytical results for the soil samples, received by our Lab on July 14, 2004, are attached. All samples were received chilled, intact and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manager

Jesse Tu, Ph.D.
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/24-26/04
DATE REPORTED: 07/26/04

SAMPLE I.D.: B17-5

LAB I.D.: 040714-2

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: MG/L IN THE STLC LEACHATE

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD USED
Copper (Cu)	0.975	0.1	1	2,500	25	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/13/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/14/04
DATE ANALYZED: 07/24-26/04
DATE REPORTED: 07/26/04

METHOD BLANK FOR LAB I.D.: 040714-2

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: MG/L IN THE STLC LEACHATE

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD USED
Copper (Cu)	ND	0.1	1	2,500	25	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the actual detection limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC

QC for LAB I.D. : 040714-2

Matrix Spike/ Matrix Spike Duplicate/ Lcs :

Extracted DATE: 07/24/2004
ANALYSIS DATE. : 07/26/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Copper (Cu)	040722-2	1.00	100	PASS	0.179	5.00	5.950	115%	5.740	111%	4%
Chromium (Cr)	040722-2	1.00	107	PASS	0.000	5.00	5.880	118%	5.720	114%	3%
Lead (Pb)	040722-2	1.00	108	PASS	0	5.00	5.86	117%	5.68	114%	3%

ANALYSIS DATE. : 07/22/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	040720-64	0.500	99	PASS	0.00000	0.030	0.0303	101%	0.0300	100%	1%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Copper (Cu)	PASS	PASS	PASS	PASS
Lead (Pb)	PASS	PASS	PASS	PASS
Chromium (Cr)	PASS	PASS	PASS	PASS
MERCURY (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: JOE SU

FINAL REVIEWER: _____

Jul-15-2004 07:27am From- Jul-14-2004 02:27pm T-015 P.002/003 F-804

KLEINFELDER

PROJECT NO.: 46824

PROJECT NAME: GED SHELDON-ARLETA

P.O. NO.:

SAMPLERS: (Signature/Affiliation) #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA, CA (909) 590-5905

INSTRUCTIONS/REMARKS: CITY OF LA - GED TO ASSIGN ALC TESTING

	DATE MM/DD/YY	SAMPLE TIME HH:MM:SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TPH(D) - 418.1	5 VOC - 8270 C	Pesticides (8081A)	TPH(G) - 8015M	Lab ID
1	7/13/04	0847	B17-2½	SOIL	1	BSTLS		X	X		040714-1
2		0853	5						X		-2
3		0903	10								-3
4		0913	15								-4
5		0918	20								-5
6	7/13/04	0936	B18-2½	SOIL	1	BSTLS			X		-6
7		0940	5								-7
8		0951	10								-8
9		1000	15								-9
10		1009	20								-10
11	7/13/04	1025	B15-2½	SOIL	1	BSTLS		X	X		-11
12		1030	5						X		-12
13		1040	10								-13
14		1045	15								-14
15		1050	20								-15
16	7/13/04	1130	B32-2½	SOIL	1	BSTLS			X		-16
17		1135	5								-17
18		1145	10								-18
19		1150	15								-19
20			20								NO RECOVERY

Relinquished by: (Signature) — Date/Time: 7/14/04 0816 — Received by: (Signature)

Relinquished by: (Signature) — Date/Time — Received by: (Signature)

Relinquished by: (Signature) — Date/Time — Received for Laboratory by: (Signature)

Instructions/Remarks:

Send Results To:

KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335
Attn: George Johnson

White - Sample

Canary - Return Copy To Shipper

Pink - Lab Copy

CHAIN OF CUSTODY

NO. 2730

sheet 2/2

KLEINFELDER

PROJECT NO. 46824

PROJECT NAME GED - SHELDON - ARLETA

P.O. NO. / WORK ORDER NO. 2490

SAMPLERS (Signature) Mike Lockhart

RECEIVING LAB: ENVIRO CHEM LABS POMONA, CA (909) 590-5905

INSTRUCTIONS/REMARKS: City of LA - GED to assign all testing.

| | DATE MM/DD/YY | SAMPLE I.D. TIME HR:MM:SS | SAMPLE ID. | MATRIX | NO. OF CONTAINERS | TYPE OF CONTAINERS | ANALYSIS: TEPH-418.1 / SVOC / PCB's 8081 / Title 22 Metals | | |

sheet 1/2

KLEINFELDER

PROJECT NO.	PROJECT NAME
46824	GED SHELDON-ARLETA

L.P. NO. (P.O. NO.)

SAMPLERS: (Signature/Number) #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA, CA (909) 590-5905

INSTRUCTIONS/REMARKS: CITY OF LA - GED TO ASSIGN ALL TESTING

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TRPH - 418.1	5VOC - 8270 C	Pesticides/PCBs 8081A	Title 22 Metals	STLC-Cr	Lab ID	
1	7/13/04	0847	B17-2½	SOIL	1 XBT	BSTLC		X	X		X	040714-1	
2		0853	5						X			-2	
3		0903	10									-3	
4		0913	15									-4	* As per George 7/21/04 1337 STD TAT
5		0918	20									-5	
6	7/13/04	0936	B18-2½	SOIL	1	BSTLC			X			-6	
7		0940	5									-7	
8		0951	10									-8	
9		1000	15									-9	
10		1009	20									-10	
11	7/13/04	1025	B15-2½	SOIL	1	BSTLC		X	X			-11	
12		1030	5						X			-12	
13		1040	10									-13	
14		1045	15									-14	
15		1050	20									-15	
16	7/13/04	1130	B32-2½	SOIL	1	BSTLC			X			-16	
17		1135	5									-17	
18		1145	10									-18	
19		1150	15									-19	NO RECOVERY
20			20										

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/14/04 0816	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/14/04 0838	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
	7/14/04 0838	

Instructions/Remarks:

Send Results To:

KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335

Attn: George Johnson

Canary – Return Copy To Shipper

Pink – Lab Copy

CHAIN OF CUSTODY

№ 2730

sheet 2/2

KLEINFELDER

PROJECT NO.	PROJECT NAME	RECEIVING LAB:
46824	GED-SHELDON-ARLETA	ENVIRO CHEM LABS POMONA, CA (909) 590-5905
L.P. NO. (P.O. NO.)	SAMPLERS: (Signature/Number) [signature] 2490	INSTRUCTIONS/REMARKS: CITY OF LA-GED TO ASSIGN ALL TESTING.

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TRPH-418.1	SVOCs-8270C	Pest\PCBs 8081\8082	Title 22 Metals	STLC-Cu	Lab ID	
						XBT							NO RECOVERY
1	7/13/04	~~1310~~	~~B33 - 2½~~	SOIL	1	BSTLC							
2		1320	B33 - 5							X		040714-20	
3		1334	10									-21	
4		1340	15									-22	
5		1348	20									-23	
6	7/13/04	1405	B31 - 2½	SOIL	1	BSTLC			X	X		-24	
7		1410	5							X		-25	
8		1430	15									-26	
9		1435	20									-27	
10	7/13/04	1505	B29 - 2½	SOIL	1	BSTLC			X	X		-28	
11		1520	5							X		-29	
12		1530	10									-30	
13		1535	15									-31	
14		1543	20									-32	
15	7/13/04	1610	B30 - 2½	SOIL	1	BSTLC			X	X		-33	
16		1618	5							X		-34	
17		1625	10									-35	
18		1633	15									-36	
19		1640	20									-37	
20													

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	7/14/04 08/16	Wenbar Hsieh ~~08/16~~
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Wenbar Hsieh	7/14/04 0838	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
	7/14/04 0838	[signature]

Instructions/Remarks:

Send Results To:

KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335

Attn: George Johnson

White – Sampler Canary – Return Copy To Shipper Pink – Lab Copy

№ 2742

CHAIN OF CUSTODY

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: July 21, 2004

Mr. George Johnson
Kleinfelder
1370 Valley Vista Drive
Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

Project Name: **GED Sheldon - Arleta**
Project #: **46824**
Enviro-Chem Lab I.D.: 040715-10 through -47

Dear Mr. Johnson:

The analytical results for the soil samples, received by our Lab on July 15, 2004, are attached. All samples were received chilled, intact and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manager

Jesse Tu, Ph.D.
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B34-2½

LAB I.D.: 040715-23

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4 4'-DDE	ND	0.001
4 4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B25-2½

LAB I.D.: 040715-28

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X10*)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
* = PQL raised due to matrix interference
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B24-2½

LAB I.D.: 040715-38

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methox clor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B22-2½

LAB I.D.: 040715-43

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

METHOD BLANK FOR LAB I.D.: 040715-23, -28, -38, -43

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Hexachlor	ND	0.001
Methoxyclor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro-Chem, Inc.

1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

EPA 8081 QA/QC Report

Matrix: **Soil** Date Analyzed: 7/17/2004

Unit: mg/Kg

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 040716-LCS1/2

Analyte	S.R.	spk conc	MS	%REC	MSD	%REC	%RPD	ACP %RPD	ACP %REC
Gamma-BHC	0.000	0.050	0.0502	**100%**	0.0460	**92%**	**9%**	**0-20%**	**70-130**
Aldrin	0.000	0.050	0.0508	**102%**	0.0524	**105%**	**3%**	**0-20%**	**70-130**
4,4-DDE	0.000	0.050	0.0545	**109%**	0.0559	**112%**	**3%**	**0-20%**	**70-130**

Lab Control Spike (LCS) Recovery:

Analyte	spk conc	LCS	% REC	ACP %REC
Gamma-BHC	0.0050	0.00456	**91%**	**75-125**
Aldrin	0.0050	0.00492	**98%**	**75-125**
4,4-DDE	0.0050	0.00540	**108%**	**75-125**
Dieldrin	0.0050	0.00526	**105%**	**75-125**

Surrogate Recovery	ACP%	MB	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.			0714-01	0714-11	0714-24	0714-28	0714-33	0715-23
Tetra-chloro-meta-xylene	50-150	133%	122%	120%	128%	123%	126%	127%
Decachlorobipneyl	50-150	137%	127%	119%	146%	122%	133%	135%

Surrogate Recovery	%REC	%REC	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.	0715-28	0715-38	0715-43	0715-88	0715-98			
Tetra-chloro-meta-xylene	124%	131%	125%	125%	136%			
Decachlorobipneyl	129%	142%	128%	126%	146%			

Surrogate Recovery	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.						
Tetra-chloro-meta-xylene						
Decachlorobipneyl						

S.R. = Sample Result

spk conc = Spike Concentration

%REC = Percent Recovery

ACP %RPD = Acceptable Percent RPD Range

ACP %REC = Acceptable Percent Recovery Range

** = Surrogate fail due to matrix interference (If Marked)*

Note: *LCS, MS, MSD are in control therefore results are in control.*

Analyzed and Reviewed By: _____

Final Reviewer: _____

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

QA/QC Report

Analysis: EPA 8082 (PCB)

Matrix: **Solid** Date Analyzed: **7/16-17/2004**

Unit: mg/Kg (PPM)

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 040715-43

Analyte	spk conc	MS	%REC	MSD	%REC	%RPD	ACP % RPD	ACP %REC
PCB (1016+1260)	0.500	0.602	**120%**	0.596	**119%**	**1%**	**0-20%**	**70-130**

LCS STD RECOVERY:

Analyte	spk conc	LCS	% REC	ACP %REC
PCB (1016+1260)	0.050	0.0593	**119%**	**75-125**

spk conc = Spike Concentration
%REC = Percent Recovery
ACP %RPD = Acceptable Percent RPD Range
ACP %REC = Acceptable Percent Recovery Range

Analyzed and Reviewed By: _____

Final Reviewer: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B27-2½

LAB I.D.: 040715-10

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	57.6	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	7.03	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.89	1.0	1	8,000	80	6010B
Copper(Cu)	7.59	1.0	1	2,500	25	6010B
Lead(Pb)	0.955	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	4.90	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	19.2	5.0	1	2,400	24	6010B
Zinc(Zn)	25.4	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B26-2½

LAB I.D.: 040715-15

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	126	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	0.698	0.5	1	100	1.0	6010B
Chromium Total(Cr)	11.1	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.93	1.0	1	8,000	80	6010B
Copper(Cu)	30.1	1.0	1	2,500	25	6010B
Lead(Pb)	42.3	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	8.33	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	24.3	5.0	1	2,400	24	6010B
Zinc(Zn)	123	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B28-2½

LAB I.D.: 040715-19

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	0.911	0.5	1	500	5.0	6010B
Barium(Ba)	100	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	11.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	4.33	1.0	1	8,000	80	6010B
Copper(Cu)	14.2	1.0	1	2,500	25	6010B
Lead(Pb)	18.4	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	8.04	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	26.1	5.0	1	2,400	24	6010B
Zinc(Zn)	59.5	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B28-10

LAB I.D.: 040715-20

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	38.5	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	5.70	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	1.92	1.0	1	8,000	80	6010B
Copper(Cu)	81.5	1.0	1	2,500	25	6010B
Lead(Pb)	2.36	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.53	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	16.2	5.0	1	2,400	24	6010B
Zinc(Zn)	67.3	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR, TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B34-2½

LAB I.D.: 040715-23

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	81.9	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	11.1	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	4.16	1.0	1	8,000	80	6010B
Copper(Cu)	11.8	1.0	1	2,500	25	6010B
Lead(Pb)	5.38	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	7.48	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	25.7	5.0	1	2,400	24	6010B
Zinc(Zn)	44.3	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B34-5

LAB I.D.: 040715-24

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	47.1	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	4.50	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.22	1.0	1	8,000	80	6010B
Copper(Cu)	11.0	1.0	1	2,500	25	6010B
Lead(Pb)	0.80	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.88	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	15.1	5.0	1	2,400	24	6010B
Zinc(Zn)	39.8	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B25-2½

LAB I.D.: 040715-28

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	92.3	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	13.7	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	4.34	1.0	1	8,000	80	6010B
Copper(Cu)	15.8	1.0	1	2,500	25	6010B
Lead(Pb)	12.5	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	9.89	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	26.0	5.0	1	2,400	24	6010B
Zinc(Zn)	50.9	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B25-5

LAB I.D.: 040715-29

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	116	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	14.5	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	6.13	1.0	1	8,000	80	6010B
Copper(Cu)	16.2	1.0	1	2,500	25	6010B
Lead(Pb)	1.69	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	10.7	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	33.9	5.0	1	2,400	24	6010B
Zinc(Zn)	50.1	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B21-2½

LAB I.D.: 040715-33

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	72.0	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	11.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.82	1.0	1	8,000	80	6010B
Copper(Cu)	10.5	1.0	1	2,500	25	6010B
Lead(Pb)	2.90	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	8.86	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	23.6	5.0	1	2,400	24	6010B
Zinc(Zn)	35.2	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B24-2½

LAB I.D.: 040715-38

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	75.5	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	6.40	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.52	1.0	1	8,000	80	6010B
Copper(Cu)	16.0	1.0	1	2,500	25	6010B
Lead(Pb)	2.33	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	5.14	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	18.1	5.0	1	2,400	24	6010B
Zinc(Zn)	30.3	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B22-2½

LAB I.D.: 040715-43

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	47.3	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	5.14	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.18	1.0	1	8,000	80	6010B
Copper(Cu)	5.72	1.0	1	2,500	25	6010B
Lead(Pb)	1.09	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.52	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	15.0	5.0	1	2,400	24	6010B
Zinc(Zn)	20.7	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B22-5

LAB I.D.: 040715-44

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	0.638	0.5	1	500	5.0	6010B
Barium(Ba)	21.7	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	2.09	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	1.01	1.0	1	8,000	80	6010B
Copper(Cu)	4.58	1.0	1	2,500	25	6010B
Lead(Pb)	ND	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	ND	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	6.81	5.0	1	2,400	24	6010B
Zinc(Zn)	12.5	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR, TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/14/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/16/04
DATE REPORTED: 07/21/04

METHOD BLANK FOR LAB I.D.:
040715-10, -15, -19, -20, -23, -24, -28, -29, -33, -38, -43, -44

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	ND	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	ND	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	ND	1.0	1	8,000	80	6010B
Copper(Cu)	ND	1.0	1	2,500	25	6010B
Lead(Pb)	ND	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	ND	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	ND	5.0	1	2,400	24	6010B
Zinc(Zn)	ND	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Lab I.D.: 040715-10~47 (12)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

Unit: Mg/Kg (ppm)

ANALYSIS DATE. : 07/16/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
ARSENIC (As)	040715-44	1.00	104	PASS	0.638	50	47.6	94%	49.2	97%	3%
Cadmium (Cd)	040715-44	1.00	102	PASS	0	50	47.8	96%	49.9	100%	4%
LEAD (Pb)	040715-44	1.00	104	PASS	0.000	50	46.4	93%	47.8	96%	3%

ANALYSiS DATE. : 07/16/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	040715-43	0.500	101	PASS	0	0.300	0.300	100%	0.300	100%	0%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
ARSENIC (As)	PASS	PASS	PASS	PASS
LEAD (Pb)	PASS	PASS	PASS	PASS
Cadmium (Cd)	PASS	PASS	PASS	PASS
MERCURY (Hg)	PASS	PASS	PASS	PASS
Accepted Range%	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: JOE SU

FINAL REVIEWER: _____

Sheet 1/2

KLEINFELDER

PROJECT NO. 46824

PROJECT NAME GED SHELDON-ARLETA

L.P. NO. (P.O. NO.

SAMPLERS: (Signature/Number) [signature] #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA, CA (909) 590-5905

INSTRUCTIONS/REMARKS

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TRPH 418.1	SVOC 8270 C	Pest/PCBs 8081/8082	Title 22 Metals	Lab ID#
1	7/14/04	0750	B27 - 2½	SOIL	1	BSTLC				X	040715 - 10
2		0755	5								11
3		0805	10								12
4		0810	15								13
5		0815	20								14
6	7/14/04	0840	B26 - 2½	SOIL	1	BSTLC				X	15
7		0844	5								16
8		0855	10								17
9		0905	20								18
10	7/14/04	0932	B28 - 2½	SOIL	1	BSTLC				X	19
11		0945 ~~0939~~	10							X	20
12		0950	15								21
13		0955	20								22
14	7/14/04	1029	B34 - 2½	SOIL	1	BSTLC			X	X	23
15		1035	5							X	24
16		1045	10								25
17		1050	15								26
18		1055	20								27
19											
20											

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	7/15/04 0855	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]		
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
	7/15/04 1000	[signature]

Instructions/Remarks:

Send Results To:

KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335

Attn: George Johnson

Canary - Return Copy To Shipper

Pink - Lab Copy

№ 2743

Sheet 2/2

KLEINFELDER

PROJECT NO. 46824

PROJECT NAME GED @ SHELDON ARLETA

L.P. NO. (P.O. NO.)

SAMPLERS: (Signature/Number) #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA CA (909) 590-5905

INSTRUCTIONS/REMARKS

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TRPH 418.1	SVOC 8270C	Pest/PCB 8081/8082	Title 22 Metals	Lab ID #
1	7/14/04	1140	B25 - 2½	SOIL	1	BSTLC			X	X	040715 - 28
2		1145	5							X	29
3		1155	10								30
4		1200	15								31
5		1205	20								32
6	7/14/04	1320	B21 - 2½	SOIL	1	BSTLC				X	33
7		1325	5								34
8		1335	10								35
9		1340	15								36
10		1345	20								37
11	7/14/04	1420	B24 - 2½	SOIL	1	BSTLC			X	X	38
12		1425	5								39
13		1435	10								40
14		1440	15								41
15		1443	20								42
16	7/14/04	1505	B22 - 2½	SOIL	1	BSTLC			X	X	43
17		1510	5							X	44
18		1520	10								45
19		1525	15								46
20		1530	20								47

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/15/04 0855	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for laboratory by: (Signature)
	7/15/04 1000	

Instructions/Remarks:

Send Results To:

KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335

Attn: George Johnson

White – Sample(s) Canary – Return Copy To Shipper Pink – Lab Copy

CHAIN OF CUSTODY

№ 2744

Sheet 1/2

KLEINFELDER

PROJECT NO.: 46824

PROJECT NAME: GED SHELDON-ARLETA

LP. NO. / PO. NO.:

SAMPLERS: (Signature) Julie Rochat #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA, CA (909) 590-5905

INSTRUCTIONS/REMARKS

	DATE MM/DD/YY	SAMPLE I.D. TIME HH:MM:SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TPH as Diesel	BTEX 8020	Pest/PCBs 8080	Title 22 Metals	Lab ID
1	7/14/04	0750	B27 - 2½	SOIL	1	BSTLC			X		040715-10
2		0755	5								-11
3		0805	10								-12
4		0810	15								-13
5		0815	20								-14
6	7/14/04	0840	B26 - 2½	SOIL	1	BSTLC			X		-15
7		0844	5								-16
8		0855	10								-17
9		0905	20								-18
10	7/14/04	0932	B28 - 2½	SOIL	1	BSTLC			X		-19
11		0939	10								-20
12		0950	15								-21
13		0955	20								-22
14	7/14/04	1024	B34 - 2½	SOIL	1	BSTLC			X	X	-23
15		1035	5								-24
16		1045	10								-25
17		1050	15								-26
18		1055	20								-27
19											
20											

Relinquished by: (Signature) Julie Rochat — Date/Time 7/15/04 0855 — Received by: (Signature)

Relinquished by: (Signature) — Date/Time — Received for Laboratory by: (Signature)

Instructions/Remarks:

Send Results To:
KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0305
Attn: Georgia Johnson

M-60

White - Sample

Canary - Return Copy To Shipper

Pink - Lab Copy

CHAIN OF CUSTODY

No. 2743

Sheet 2/2

KLEINFELDER

PROJECT NO. 46824

PROJECT NAME: GED & SHELDON ARLETA

L.A. NO. (R.O. NO.)

SAMPLERS: (Signature) #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA CA (909) 590-5905

INSTRUCTIONS/REMARKS

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TRPH 418.1	SVOC 8270C	PCB/GB 8021/8082	Tcllc 22 Metals	Lab ID#
1	7/14/04	1140	B25 - 2½	SOIL	1	BSTLC		X	X		040715-28
2		1145	5						X		-29
3		1155	10								-30
4		1200	15								-31
5		1205	20								-32
6	7/14/04	1320	B21 - 2½	SOIL	1	BSTLC			X		-33
7		1325	5								-34
8		1335	10								-35
9		1340	15								-36
10		1345	20								-37
11	7/14/04	1420	B24 - 2½	SOIL	1	BSTLC		X	X		-38
12		1425	5								-39
13		1435	10								-40
14		1440	15								-41
15		1443	20								-42
16	7/14/04	1505	B22 - 2½	SOIL	1	BSTLC		X	X		-43
17		1510	5						X		-44
18		1520	10								-45
19		1525	15								-46
20		1530	20								-47

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	7/15/04 0855	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Instructions/Remarks:

Send Results To:
KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335
Attn: George Johnson

Canary - Return Copy To Shipper

Pink - Lab Copy

White - Sampler

AI-60

CHAIN OF CUSTODY

№ 2744

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: July 21, 2004

Mr. George Johnson
Kleinfelder
1370 Valley Vista Drive
Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

Project Name: **GED Sheldon - Arleta**
Project #: **46824**
Enviro-Chem Lab I.D.: 040715-88 through -105

Dear Mr. Johnson:

The analytical results for the soil samples, received by our Lab on July 15, 2004, are attached. All samples were received chilled, intact and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manager

Jesse Tu, Ph.D.
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Kleinfelder**
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: **GED Sheldon - Arleta**
PROJECT No.: **46824**
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: **B23-2½**

LAB I.D.: 040715-88

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4 4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methoxyclor	ND	0.001
Toxaphene	ND	0.200
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/17/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B16-2½

LAB I.D.: 040715-98

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4 4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4 4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methox clor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE EXTRACTED: 07/15-16/04
DATE ANALYZED: 07/16-17/04
DATE REPORTED: 07/21/04

METHOD BLANK FOR LAB I.D.: 040715-88, -98

Organochlorine Pesticides & PCBs Analysis
Method: EPA 8081A/8082
Unit: Mg/Kg = Milligram per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL(X1)
Aldrin	ND	0.001
alpha-BHC	ND	0.001
beta-BHC	ND	0.001
gamma-BHC (Lindane)	ND	0.001
delta-BHC	ND	0.001
alpha-Chlordane	ND	0.001
gamma-Chlordane	ND	0.001
4,4'-DDD	ND	0.001
4,4'-DDE	ND	0.001
4,4'-DDT	ND	0.001
Dieldrin	ND	0.001
Endosulfan I	ND	0.001
Endosulfan II	ND	0.001
Endosulfan Sulfate	ND	0.001
Endrin	ND	0.001
Endrin Aldehyde	ND	0.001
Endrin Ketone	ND	0.001
Heptachlor Epoxide	ND	0.001
Heptachlor	ND	0.001
Methox clor	ND	0.200
Toxaphene	ND	0.010
PCB-1016	ND	0.010
PCB-1221	ND	0.010
PCB-1232	ND	0.010
PCB-1242	ND	0.010
PCB-1248	ND	0.010
PCB-1254	ND	0.010
PCB-1260 V	ND	0.010

COMMENTS
PQL = Practical Quantitation Limit
ND = Non detected or below the PQL

Data Reviewed and Approved by:
CAL-DHS CERTIFICATE # 1555

Enviro-Chem, Inc.

1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

EPA 8081 QA/QC Report

Matrix: **Soil** Date Analyzed: 7/17/2004

Unit: mg/Kg

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 040716-LCS1/2

Analyte	S.R.	spk conc	MS	%REC	MSD	%REC	%RPD	ACP %RPD	ACP %REC
Gamma-BHC	0.000	0.050	0.0502	**100%**	0.0460	**92%**	**9%**	**0-20%**	**70-130**
Aldrin	0.000	0.050	0.0508	**102%**	0.0524	**105%**	**3%**	**0-20%**	**70-130**
4,4-DDE	0.000	0.050	0.0545	**109%**	0.0559	**112%**	**3%**	**0-20%**	**70-130**

Lab Control Spike (LCS) Recovery:

Analyte	spk conc	LCS	% REC	ACP %REC
Gamma-BHC	0.0050	0.00456	**91%**	**75-125**
Aldrin	0.0050	0.00492	**98%**	**75-125**
4,4-DDE	0.0050	0.00540	**108%**	**75-125**
Dieldrin	0.0050	0.00526	**105%**	**75-125**

Surrogate Recovery	ACP%	MB	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.			0714-01	0714-11	0714-24	0714-28	0714-33	0715-23
Tetra-chloro-meta-xylene	50-150	133%	122%	120%	128%	123%	126%	127%
Decachlorobipneyl	50-150	137%	127%	119%	146%	122%	133%	135%

Surrogate Recovery	%REC	%REC	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.	0715-28	0715-38	0715-43	0715-88	0715-98			
Tetra-chloro-meta-xylene	124%	131%	125%	125%	136%			
Decachlorobipneyl	129%	142%	128%	126%	146%			

Surrogate Recovery	%REC	%REC	%REC	%REC	%REC	%REC
Sample I.D.						
Tetra-chloro-meta-xylene						
Decachlorobipneyl						

S.R. = Sample Result

spk conc = Spike Concentration

%REC = Percent Recovery

ACP %RPD = Acceptable Percent RPD Range

ACP %REC = Acceptable Percent Recovery Range

** = Surrogate fail due to matrix interference (If Marked)*

Note: *LCS, MS, MSD are in control therefore results are in control.*

Analyzed and Reviewed By: _____

Final Reviewer: _____

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

QA/QC Report

Analysis: EPA 8082 (PCB)

Matrix: **Solid** Date Analyzed: **7/16-17/2004**

Unit: mg/Kg (PPM)

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 040715-43

Analyte	spk conc	MS	%REC	MSD	%REC	%RPD	ACP % RPD	ACP %REC
PCB (1016+1260)	0.500	0.602	**120%**	0.596	**119%**	**1%**	**0-20%**	**70-130**

LCS STD RECOVERY:

Analyte	spk conc	LCS	% REC	ACP %REC
PCB (1016+1260)	0.050	0.0593	**119%**	**75-125**

spk conc = Spike Concentration
%REC = Percent Recovery
ACP %RPD = Acceptable Percent RPD Range
ACP %REC = Acceptable Percent Recovery Range

Analyzed and Reviewed By: 

Final Reviewer: 

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B23-2½

LAB I.D.: 040715-88

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	58.3	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	5.53	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.76	1.0	1	8,000	80	6010B
Copper(Cu)	13.2	1.0	1	2,500	25	6010B
Lead(Pb)	1.11	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.97	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	20.7	5.0	1	2,400	24	6010B
Zinc(Zn)	29.1	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B23-5

LAB I.D.: 040715-89

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	50.7	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	6.32	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.28	1.0	1	8,000	80	6010B
Copper(Cu)	8.45	1.0	1	2,500	25	6010B
Lead(Pb)	1.58	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.59	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	19.5	5.0	1	2,400	24	6010B
Zinc(Zn)	24.1	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B20-2½

LAB I.D.: 040715-93

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	1.31	0.5	1	500	5.0	6010B
Barium(Ba)	116	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	0.832	0.5	1	100	1.0	6010B
Chromium Total(Cr)	28.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	4.44	1.0	1	8,000	80	6010B
Copper(Cu)	15.3	1.0	1	2,500	25	6010B
Lead(Pb)	3.34	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	18.9	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	48.8	5.0	1	2,400	24	6010B
Zinc(Zn)	49.9	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B16-2½

LAB I.D.: 040715-98

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	1.12	0.5	1	500	5.0	6010B
Barium(Ba)	86.0	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	1.03	0.5	1	100	1.0	6010B
Chromium Total(Cr)	15.0	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	2.96	1.0	1	8,000	80	6010B
Copper(Cu)	18.8	1.0	1	2,500	25	6010B
Lead(Pb)	2.96	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	14.3	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	41.1	5.0	1	2,400	24	6010B
Zinc(Zn)	48.8	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B16-5

LAB I.D.: 040715-99

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	1.26	0.5	1	500	5.0	6010B
Barium(Ba)	94.0	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	0.715	0.5	1	100	1.0	6010B
Chromium Total(Cr)	17.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	3.74	1.0	1	8,000	80	6010B
Copper(Cu)	12.9	1.0	1	2,500	25	6010B
Lead(Pb)	4.84	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	12.5	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	39.1	5.0	1	2,400	24	6010B
Zinc(Zn)	44.0	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

SAMPLE I.D.: B19-2½

LAB I.D.: 040715-101

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	0.786	0.5	1	500	5.0	6010B
Barium(Ba)	159	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	0.800	0.5	1	100	1.0	6010B
Chromium Total(Cr)	29.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	7.40	1.0	1	8,000	80	6010B
Copper(Cu)	24.0	1.0	1	2,500	25	6010B
Lead(Pb)	9.68	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	19.8	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	50.8	5.0	1	2,400	24	6010B
Zinc(Zn)	68.9	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: Kleinfelder
1370 Valley Vista Drive, Suite 150
Diamond Bar, CA 91765
Tel(909)396-0335 Fax(909)396-1324

PROJECT NAME: GED Sheldon - Arleta
PROJECT No.: 46824
MATRIX: SOIL
DATE SAMPLED: 07/15/04
REPORT TO: Mr. GEORGE JOHNSON

DATE RECEIVED: 07/15/04
DATE ANALYZED: 07/19/04
DATE REPORTED: 07/21/04

METHOD BLANK FOR LAB I.D.: 040715-88, -89, -93, -98, -99, -101

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: MG/KG = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	ND	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	ND	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	0.1	1	500	5.0	7196A
Cobalt(Co)	ND	1.0	1	8,000	80	6010B
Copper(Cu)	ND	1.0	1	2,500	25	6010B
Lead(Pb)	ND	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.1	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	ND	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	ND	5.0	1	2,400	24	6010B
Zinc(Zn)	ND	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
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** = TCLP-Chromium is recommended (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Lab I.D.: 040715-88~105 (6)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE. : 07/19/2004

Unit: Mg/Kg (ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
ARSENIC (As)	040715-89	1.00	108	PASS	0.000	50	50.8	102%	50.5	101%	1%
Cadmium (Cd)	040715-89	1.00	108	PASS	0	50	50.5	101%	48.8	98%	3%
LEAD (Pb)	040715-89	1.00	113	PASS	0.000	50	48.4	97%	47.7	95%	1%

ANALYSIS DATE. : 07/19/2004

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	040715-88	0.500	99	PASS	0	0.300	0.310	103%	0.307	102%	1%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
ARSENIC (As)	PASS	PASS	PASS	PASS
LEAD (Pb)	PASS	PASS	PASS	PASS
Cadmium (Cd)	PASS	PASS	PASS	PASS
MERCURY (Hg)	PASS	PASS	PASS	PASS
Accepted Range%	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: JOE SU

FINAL REVIEWER: _____

KLEINFELDER

PROJECT NO. 46824 | PROJECT NAME GED SHELDON-ARLETA

LAB NO. (RO NO.) | SAMPLERS: (Signature/Name) #2490

RECEIVING LAB: ENVIRO CHEM LABS, Pomona, CA, 909/590 5905

INSTRUCTIONS/REMARKS: Hold

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSES: TPH 418.1	5 VOC 8270C	Post PCBs 8080&82	Title 22 Metals	
1	7/15/04	0800	B23 - 2½	SOIL	1	BSTLC	X	X			040715-88
2		0805	5								-89
3		0815	10								-90
4		0820	15								-91
5		0825	20								-92
6	7/15/04	0900	B20 - 2½	SOIL	1	BSTLC		X			-93
7		0905	5								-94
8		0915	10								-95
9		0920	15								-96
10		0930	20								-97
11	7/15/04	1040	B16 - 2½	SOIL	1	BSTLC	X	X			-98
12		1045	5					X			-99
13		1055	10								-100
14	7/15/04	1135	B19 - 2½	SOIL	1	BSTLC		X			-101
15		1140	5								-102
16		1150	10								-103
17		1155	15								-104
18		1200	20								-105
19											
20											

Relinquished by: (Signature) | Date/Time 7/15/04 15:15 | Received by: (Signature)

Relinquished by: (Signature) | Date/Time | Received by: (Signature)

Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature)

Invoice Comments:

Send Results To:
KLEINFELDER
1870 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3810
(909) 396-0335
Attn: George Johnson

White - Sample | Canary - Return Copy To Shipper | Pink - Lab Copy

CHAIN OF CUSTODY

No. 2731

KLEINFELDER

PROJECT NO.	PROJECT NAME
46824	GED SHELDON-ARLETA

L.P. NO. (P.O. NO.)

SAMPLERS: (Signature/Number) #2490

RECEIVING LAB: ENVIRO CHEM LABS POMONA, CA 909/590 5905

INSTRUCTIONS/REMARKS

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: TRPH 418.1	5VOC 8270C	Pest/PCB's 8021/8081	Title 22 Metals	Lab ID
1	7/15/04	0800	B23 - 2½	SOIL	1	BSTLC			X	X	040715-88
2		0805	5							X	-89
3		0815	10								-90
4		0820	15								-91
5	↓	0825	↓ 20	↓	↓	↓					-92
6	7/15/04	0900	B20 - 2½	SOIL	1	BSTLC				X	-93
7		0905	5								-94
8		0915	10								-95
9		0920	15								-96
10	↓	0930	↓ 20	↓	↓	↓					-97
11	7/15/04	1040	B16 - 2½	SOIL	1	BSTLC			X	X	-98
12		1045	5							X	-99
13	↓	1055	↓ 10	↓	↓	↓					-100
14	7/15/04	1135	B19 - 2½	SOIL	1	BSTLC				X	-101
15		1140	5								-102
16		1150	10								-103
17		1155	15								-104
18	↓	1200	↓ 20	↓	↓	↓					-105
19											
20											

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/15/04 15:15	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/17/04 16:15	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
	7/15/04 1615	

Instructions/Remarks:

Send Results To:

KLEINFELDER
1370 VALLEY VISTA DRIVE
SUITE 150
DIAMOND BAR, CA 91765-3910
(909) 396-0335

Attn: George Johnson

M-60

White – Sampler

Canary – Return Copy To Shipper

Pink – Lab Copy

CHAIN OF CUSTODY

No. 2731

APPENDIX E

DEPARTMENT OF GENERAL SERVICES REPORT, DATED AUGUST 10, 2004

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

SHELDON – ARLETA LANDFILL
STREET WIDENING AND FLARE SITE

LAB NO. 140-5358

W.O NO. E1700500
AUGUST 2004

GEOTECHNICAL SERVICES FILE: 03-053

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
fax (213) 485-5075

LAB. No. 140-5358
REC'D 06/15/2004
REP'T'D 08/10/2004
To Gary Lee Moore
City Engineer
Att'n: Mr. Michael Brown

SHELDON – ARLETA LANDFILL

W.O. No. E1700500
File No. 03-053

Report of
SUBSURFACE INVESTIGATION

Transmitted are the results of subsurface investigation performed by Standards on the above-named project as requested by the Geotechnical Engineering Division (GED) of the Bureau of Engineering. The logs of the test borings, the Unified Soil Classification and the results of the laboratory tests requested by the Engineer are parts of this report. The descriptions reported on the "Log of Test Boring" sheets are based on field identification procedures and examination of the samples in the laboratory unless soil classification tests were performed on the samples. The soil classification is based on the attached Unified Soils Classification System and Classification of Fine-Grained Soils.

Fourteen test borings were drilled on this project with a truck-mounted Central Mine Equipment Model-75HT drill rig using an 8-inch diameter hollow stem augers. "Undisturbed" samples were obtained from the test borings with a 3½-inch outside diameter (O.D.) by 3-inch inside diameter (I.D.) Split Spoon sampler lined with 2⅞-inch inside diameter (I.D.) by 1-inch high brass tubes. The sampler was driven into the soil with the weight of a 300-pound automatic trip hammer falling approximately 30 inches.

The following tests were performed on samples from the test borings:

In-place Dry Density and Field Moisture (ASTM D2937)

Laboratory Maximum Dry Density and Optimum Moisture Content (ASTM D1557)

Direct Shear (ASTM D3080)

Grain Size Analysis (ASTM D422)

Liquid Limit (ASTM D4318 - one point method)

Plasticity Index (ASTM D4318)

Stabilometer "R" Value (Calif. Test Method No. 301)

Chemical tests on distilled water extracts from soil samples were made as follows:

Sulfates	EPA 300.0	Chlorides	EPA 300.0
Acidity	EPA 120.1	PH	EPA 150.1
Conductivity	EPA 120.1		

SHELDON - ARLETA
LANDFILL
W.O. No. E1700500
File No. 03-053

Whenever possible, the in-place dry density and field moisture content were determined from the total undisturbed sample before being prepared for other laboratory tests. These are reported to the nearest 1 pound per cubic foot and 0.1 percent respectively.

Each direct shear test was performed on 2⅜-inch diameter by 1-inch high undisturbed soil specimens which were soaked for 24 hours before being tested. During soaking the specimens were confined between two perforated brass plates to prevent swelling. The specimens were tested under various normal loads with a different specimen being used for each normal load. The rate of shearing was 0.004 inch per minute and peak shear load values (represented by solid symbols) and ultimate shear load values at 0.200 inch displacement of the sheared specimens (represented by symbols which are not solid) are reported.

Each R-Value test was performed on a composite sample in accordance with California Test Method No. 301. Three soil specimens with different moisture contents molded and tested at three different exudation pressures. The R-Value was obtained at the exudation pressure of 300 psi.

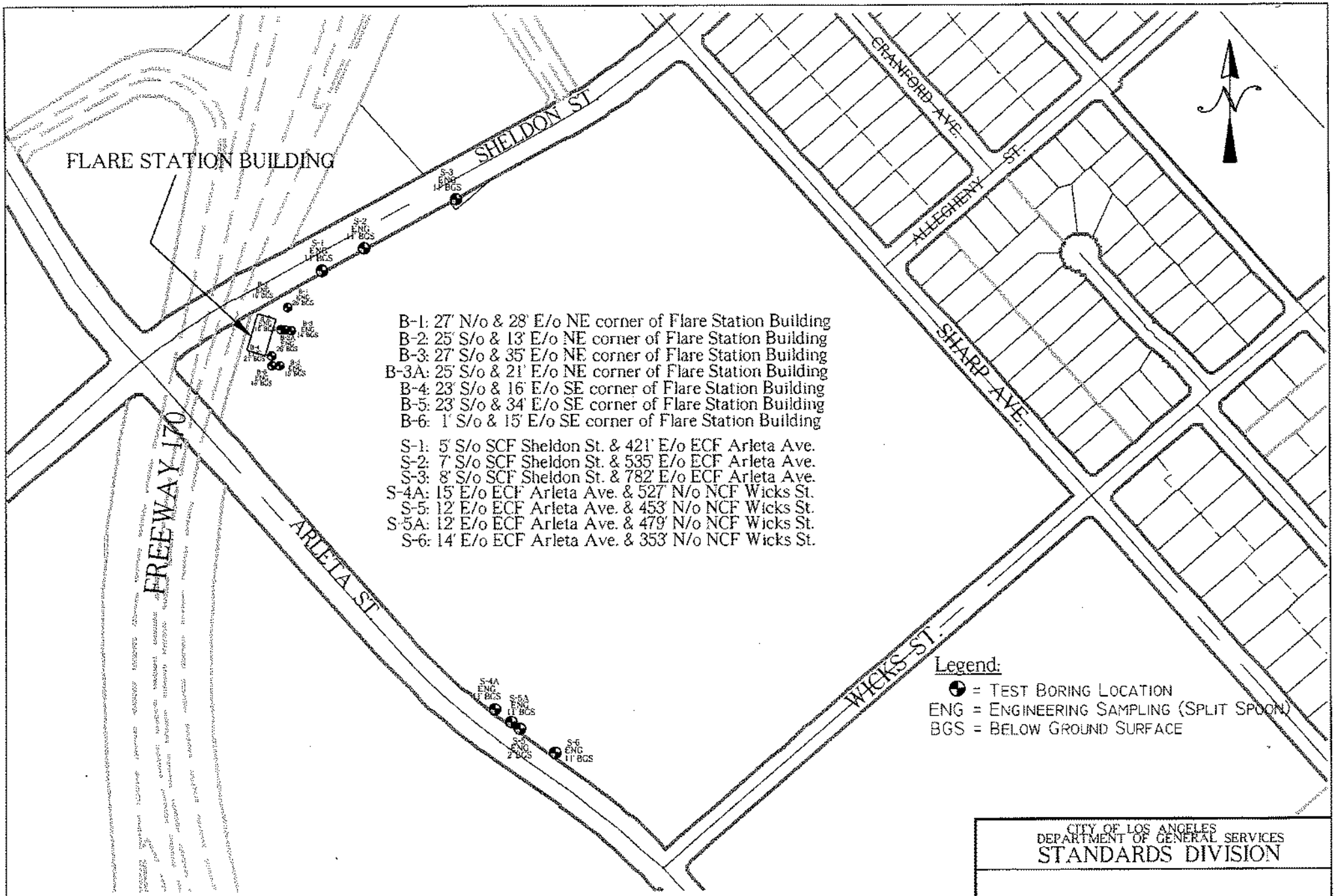
The Notice to Proceed with the subsurface investigation was given by GED to Standards on 06-28-2004. Juan Guzman and Theo Seeley of your Bureau was present during drilling and sampling operations. A boring location map is included in this report.

All soil samples for the above-named project that were delivered to the Standard Foundation Laboratory are presently being stored. These samples will be discarded 45 days after the date of this report unless a specific written request to retain the samples for additional testing or for a longer storage period is submitted by your Bureau.

PAPKIN K. HOVASAPIAN, Director
General Services/Standards

PKH:JV:RS:PCL:CP:PK:m

REGISTERED PROFESSIONAL ENGINEER
PAPKIN K. HOVASAPIAN
No. 000417
Exp. 12/31/05
GEOTECHNICAL
STATE OF CALIFORNIA



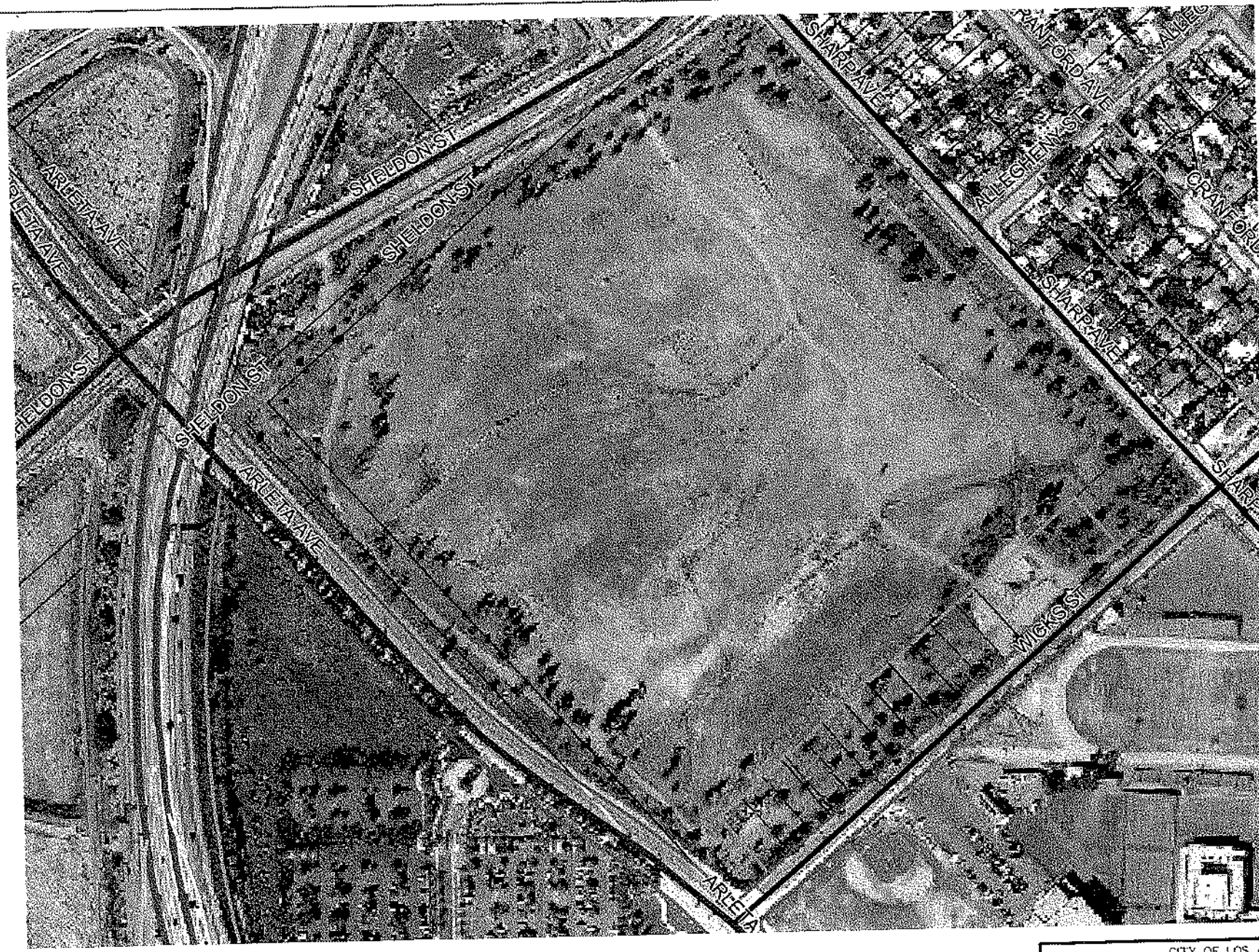
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

TEST BORING LOCATIONS

Project Title: SHELDON - ARLETA LANDFILL
STREET WIDENING AND FLARE SITE

W.O. No.: E1700500

Lab. No.: 140-5358	CAD by: NavigateLA	Checked by: JV/PCL
Date: 08-10-04	Approx. Scale: 1" to 300'	Sheet: 1 of 1



CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

AERIAL VICINITY MAP

Lab. No.: 140-5358	Photo: NavigateLA Intranet	Checked by: PCL/JV
Date: 08-11-04	Aerial Photo Scale 1" to 260'	Sheet: 1 of 1

Project Title: SHELDON - ARLETA LANDFILL

W.O. NO.: E1700500

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

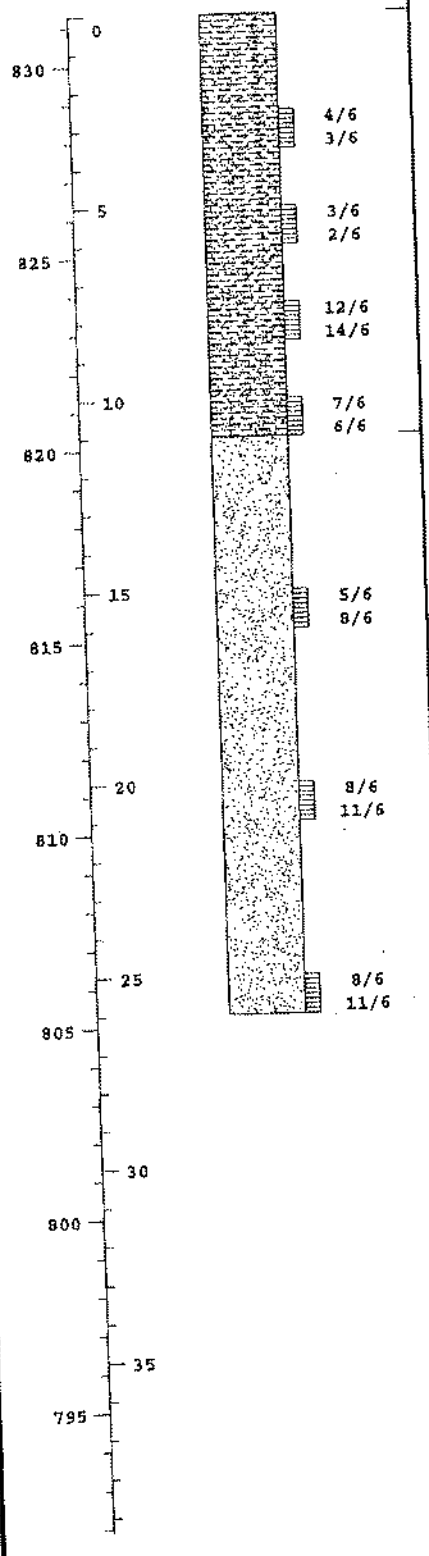
BORING NO.: B-1 **ELEVATION:** 831.3' **DRILLING DATE:** 06/29/2004

BORING LOCATION: 27' N/o AND 28' E/o NE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman, Seeley



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
		0	0		FILL MATERIAL - Brown silty fine-medium sand with some gravel. Moist and loose. Landfill cap. Bulk soil sample taken from 0 to 5' depth. Encountered metal and paper debris from 4' to 11' depth.		
		0	0				
		0	0			2.1	122
		0	0	SP	Grayish brown poorly graded fine-medium sand with some gravel. Moist and dense.		
		0	0			2.2	113
		0	0				
		0	0				
					--- No free water --- Test Boring Location Coordinates: 34° 13' 40.06" N 118° 24' 36.23" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

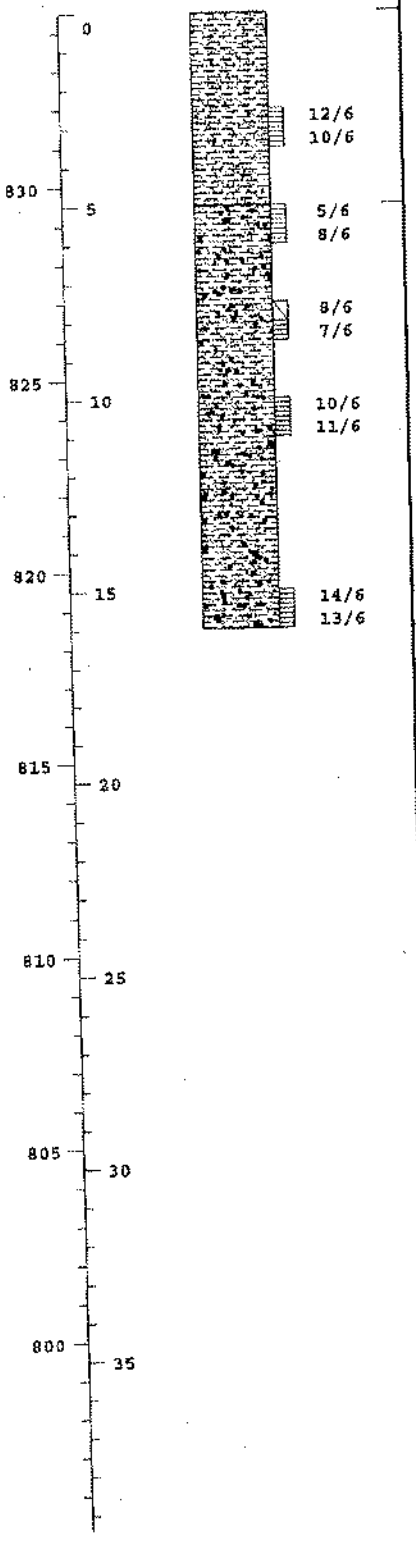
BORING NO.: B-2 **ELEVATION:** 834.5' **DRILLING DATE:** 06/29/2004

BDRING LOCATION: 25' N/o and 13' E/o NE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
		0	1.5		FILL MATERIAL - Brown silty fine sand with a trace of gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth. Encountered AC fragments @ 3' depth.	5.3	123
		0	0	SW-SM	Grayish brown well-graded fine-medium sand with gravel. Moist and dense.	1.2	126
		0			Split spoon sample was not recovered at 7½" depth.		
		0	0			3.7	113
		0	0		--- No free water. --- Test Boring Location Coordinates: 34° 13' 39.59" N 118° 24' 36.58" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

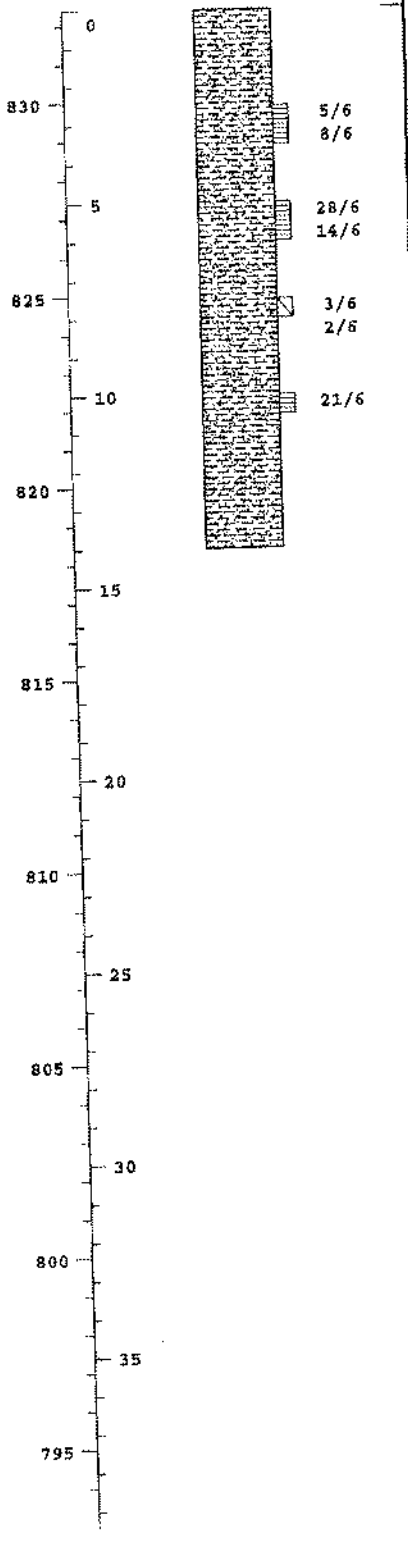
BORING NO.: B-3 **ELEVATION:** 832.4' **DRILLING DATE:** 06/29/2004

BORING LOCATION: 27' S/o and 35' E/o NE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
		0	0		FILL MATERIAL - Brown silty fine-medium sand with some gravel. Moist and dense. Landfill cap. Bulk soil sample taken from 0 to 2½' depth.	4.6	99
		0	0		Encountered a cobble at 5' depth.		
		0			Split spoon sample was not recovered at 7½' depth.		
		0	0				
					No free water.		
					Test Boring Location Coordinates: 34° 13' 39.54" N 118° 24' 36.34" W Boring suspended @ 14' depth.		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

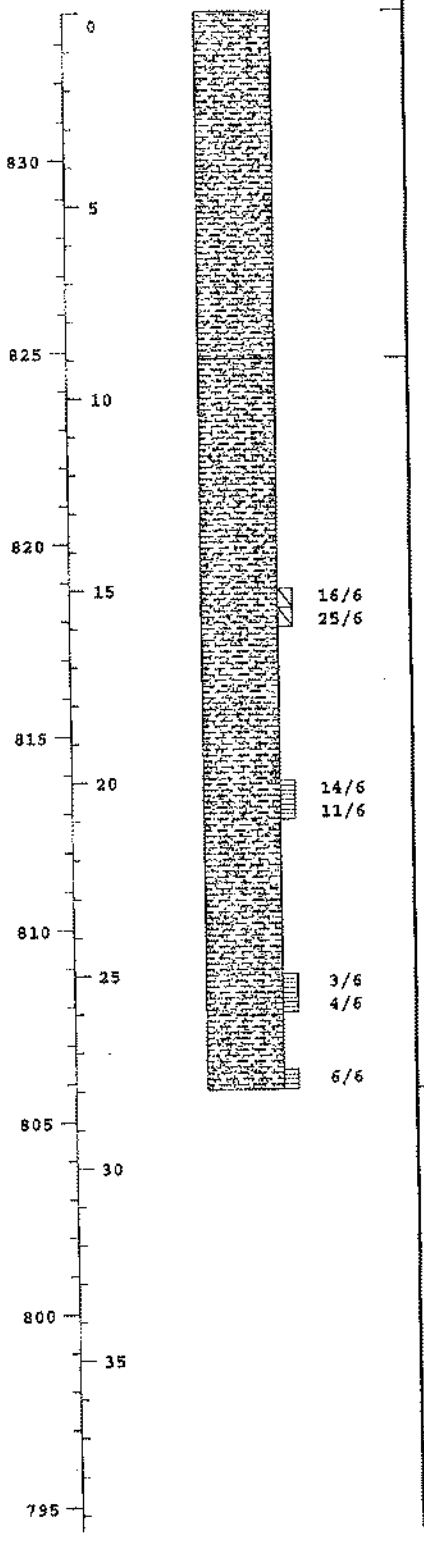
BORING NO.: B-3A **ELEVATION:** 833.8' **DRILLING DATE:** 07/06/2004

BORING LOCATION: 25' S/o and 21' E/o NE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
					FILL MATERIAL - Brown silty fine-medium sand with some gravel. Moist. Encountered paper debris @ 6' depth.		
				SP-SM	POSSIBLE FILL MATERIAL - Brown poorly graded fine-medium sand with some silt and a little gravel. Moist and dense.		
	16/6 25/6	0			Split spoon sample was not recovered @ 15' depth.		
	14/6 11/6	0	0				
	3/6 4/6	0	0		Low blow count @ 25' depth.	7.5	109
	6/6	0	0			4.6	122
					--- No free water. --- Test Boring Location Coordinates: 34° 13' 39.58" N 118° 24' 36.48" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

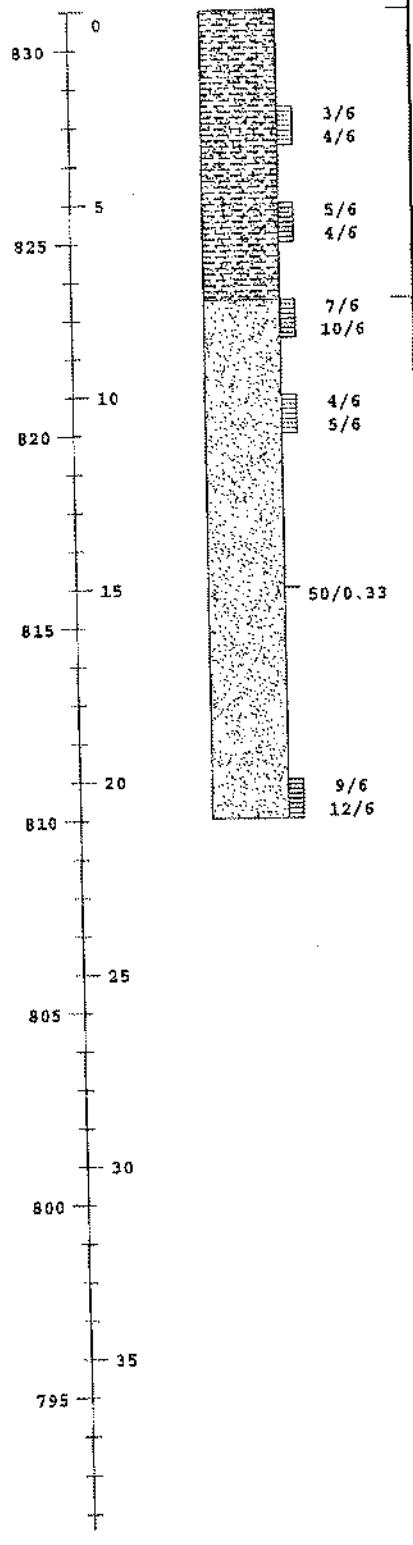
BORING NO.: B-4 **ELEVATION:** 831' **DRILLING DATE:** 07/06/2004

BORING LOCATION: 23' S/o and 16' E/o SE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
					FILL MATERIAL - Brown silty fine-medium sand with some gravel. Moist and loose. Bulk soil sample taken from 0 to 2½' depth.	5.1	117
		0	0				
		0	0			10.7	112
		0	0				
		0	0	SP	Gray poorly graded fine-medium sand with some gravel. Moist and dense.		
		0	0				
		1			Split spoon sample was not recovered @ 15' depth.		
		0	0				
					--- No free water. --- Test Boring Location Coordinates: 34° 13' 38.79" N 118° 24' 36.97" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

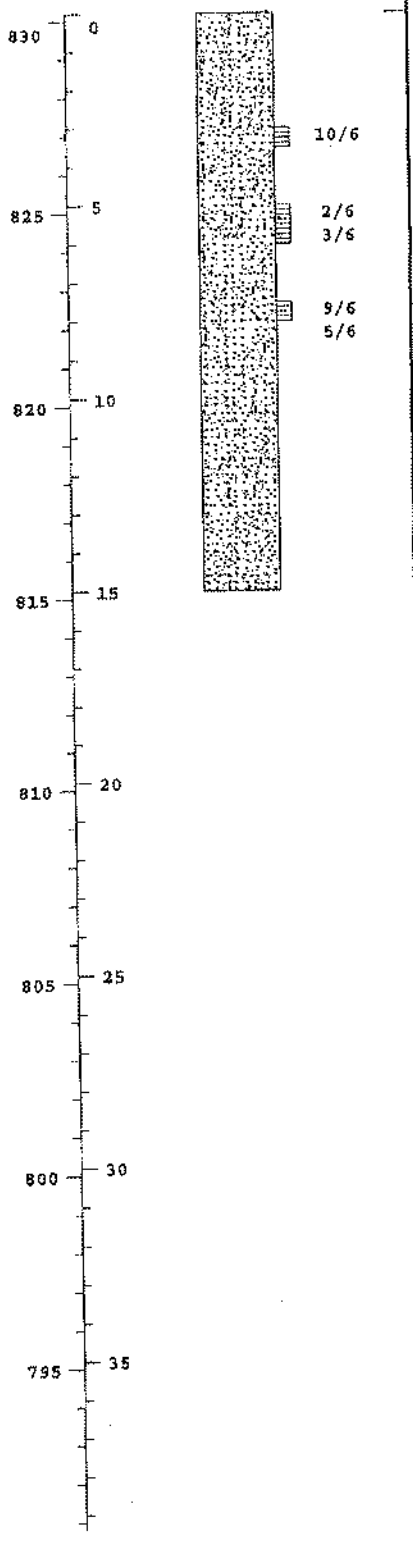
BORING NO.: B-5 **ELEVATION:** 830.2' **DRILLING DATE:** 07/06/2004

BORING LOCATION: 23' S/o and 34' E/o SE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
		0	0		FILL MATERIAL - Brown clayey sand with gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth.	13.5	114
		0	267		Encountered glasss and organic debris @ 5' depth.		
		3	0		TRASH		
		90			--- No free water. --- Test Boring Location Coordinates: 34° 13' 38.75" N 118° 24' 36.67" W Boring was terminated @ 15' depth due to high gas readings: 90% LEL, 250000 ppm (taken @ 15' depth at top of boring).		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

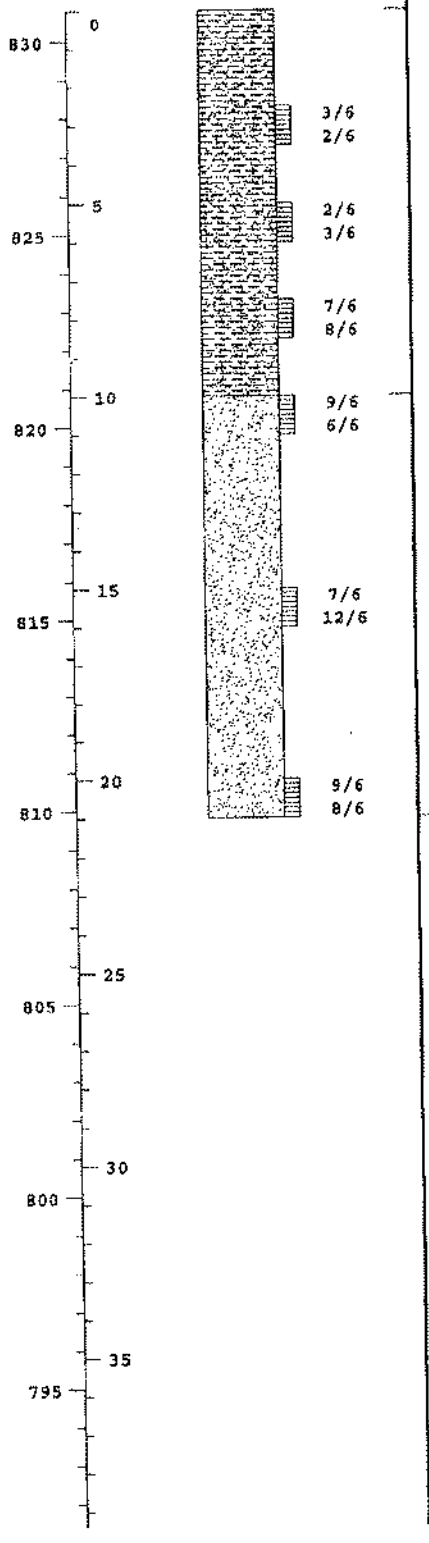
BORING NO.: B-6 **ELEVATION:** 830.8' **DRILLING DATE:** 07/06/2004

BORING LOCATION: 1' S/o and 15' E/o SE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
					FILL MATERIAL - Brown silty fine-medium sand with some gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth.		
	3/6, 2/6	0	0				
	2/6, 3/6	0	0			4.0	109
	7/6, 8/6	0	0			3.2	118
	9/6, 6/6	0	0	SP	Gray poorly graded fine-medium sand with a little gravel. Moist and dense.	4.5	110
	7/6, 12/6	0	0			2.0	110
	9/6, 8/6	0	0			2.4	119
					--- No free water. --- Test Boring Location Coordinates: 34° 13' 39.01" N 118° 24' 36.85" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

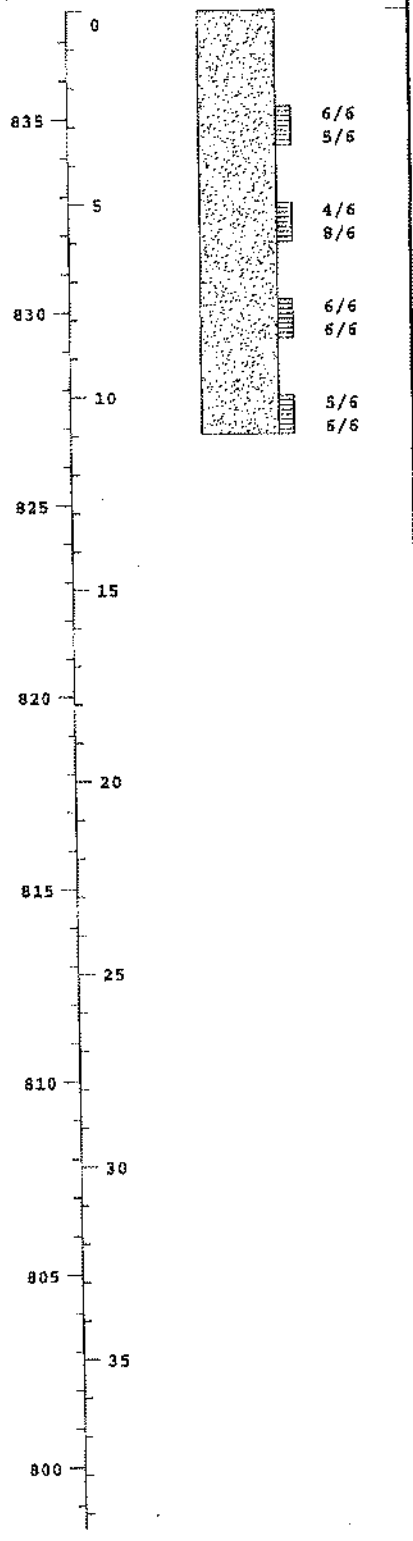
BORING NO.: S-1 **ELEVATION:** 837.8' **DRILLING DATE:** 07/08/2004

BORING LOCATION: 5' S/o SCF Sheldon St. and 421' E/o ECF Arleta Ave.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Roth **ENGINEER:**



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
		0	0	SP	Brown poorly graded fine-medium sand with some gravel and a few small cobbles. Moist and dense. Bulk soil sample taken from 0 to 2½' depth.		
		0	0			2.6	119
		0	0			3.1	117
		0	0				
					--- No free water. --- Test Boring Location Coordinates: 34° 13' 41.05" N 118° 24' 35.23" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

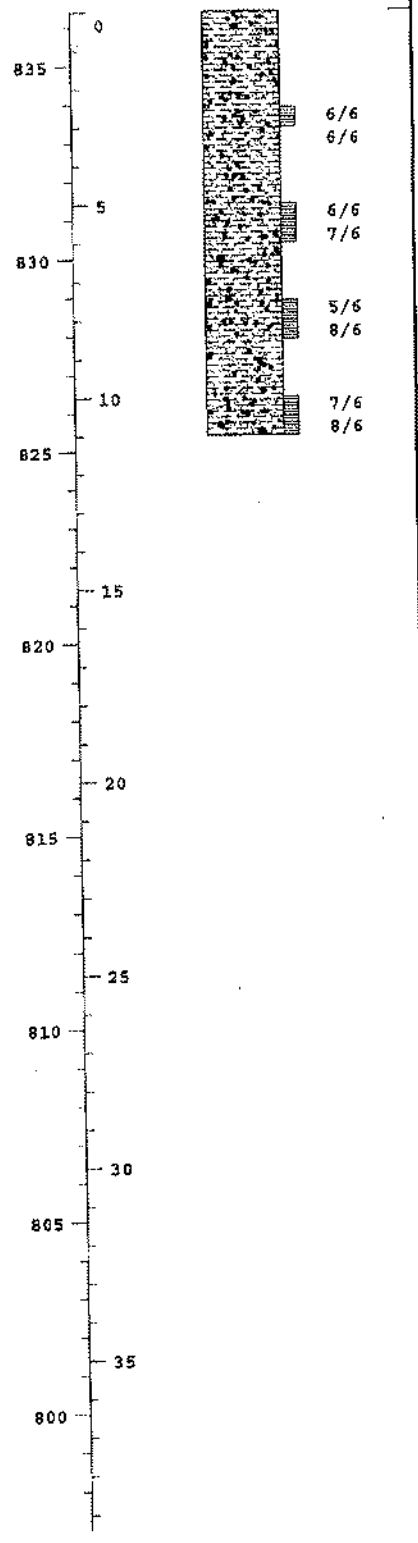
BORING NO.: S-2 **ELEVATION:** 836.4' **DRILLING DATE:** 07/08/2004

BORING LOCATION: 7' S/o SCF Sheldon St. and 535' E/o ECF Arleta Ave.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Roth **ENGINEER:**



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dens. Pcf
				SW-SM	Well-graded sand with silt and gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth.	8.2	123
		0	0			2.0	123
		0	0			4.0	117
		0	0				
					--- No free water. --- Test Boring Location Coordinates: 34° 13' 41.69" N 118° 24' 34.01" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

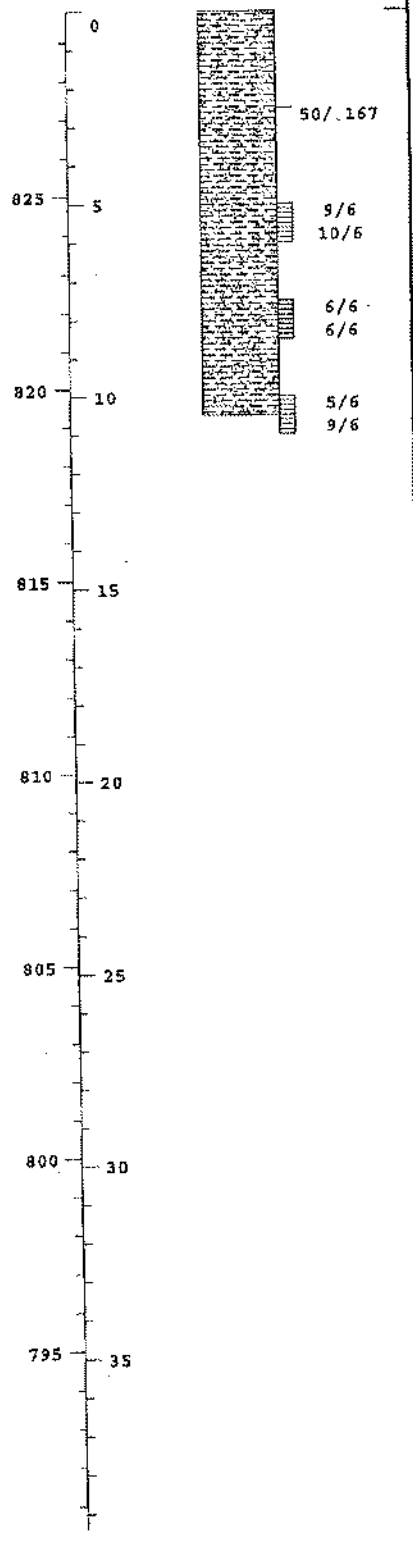
BORING NO.: S-3 **ELEVATION:** 829.8' **DRILLING DATE:** 07/08/2004

BORING LOCATION: 8' S/o SCF Sheldon St. and 782' E/o ECF Arleta Ave.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Roth **ENGINEER:**



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
				SP-SM	Poorly graded sand with silt and gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth. Encountered a large cobble at 2½' depth. Split spoon sample was not recovered.		
		0					
		0	0			3.4	122
		0	0			3.8	119
		0	0			3.0	118
					--- No free water. --- Test Boring Location Coordinates: 34° 13' 42.94" N 118° 24' 31.48" W		

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

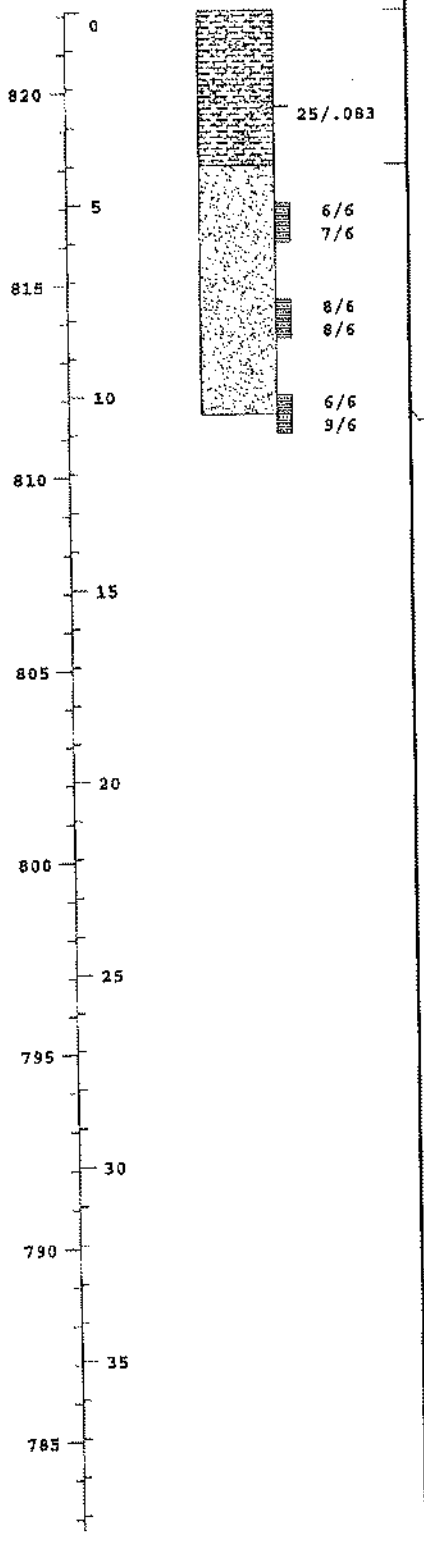
BORING NO.: S-4A **ELEVATION:** 822.1' **DRILLING DATE:** 07/19/2004

BORING LOCATION: 15' E/o ECF Arleta Ave. and 527' N/o NCF Wicks St.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Mirabueno **ENGINEER:** None



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dens. Pcf
		0			FILL MATERIAL - Brown silty fine to medium sand with some gravel and trace of cobbles. Moist and dense. Bulk soil sample taken from 0 to 2½' depth. Encountered a large cobble at 2½' depth.		
				SP	Split spoon sample was not recovered.		
		0	0		Gray poorly graded fine to medium sand with few gravel. Moist and dense.	4.1	109
		0	0			3.9	110
		0	0			4.6	109

					No free water.		

					Test Boring Location Coordinates: 34° 13' 31.45" N 118° 24' 31.48" W		

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

BORING NO.: S-5 **ELEVATION:** 821.4' **DRILLING DATE:** 07/08/2004

BORING LOCATION: 12' E/o ECF Arleta Ave. and 453' N/o NCF Wicks St.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Roth **ENGINEER:** None

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
820 / 0					AC pavement (apron) in poor condition.		
				SP	Brown poorly graded fine to medium sand with some gravel. Moist. Encountered PCC @ 2' depth.		

					No free water.		

					Test Boring Location Coordinates:		
815 / 5							
810 / 10							
805 / 15							
800 / 20							
795 / 25							
790 / 30							
785 / 35							

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

BORING NO.: S-5 **ELEVATION:** 821.4' **DRILLING DATE:** 07/08/2004

BORING LOCATION: 12' E/o ECF Arleta Ave. and 453' N/o NCF Wicks St.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Roth **ENGINEER:** None

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dens. Pcf
820 / 0					AC pavement (apron) in poor condition.		
				SP	Brown poorly graded fine to medium sand with some gravel. Moist. Encountered PCC @ 2' depth.		

					No free water.		

					Test Boring Location Coordinates:		
815 / 5							
810 / 10							
805 / 15							
800 / 20							
795 / 25							
790 / 30							
785 / 35							

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

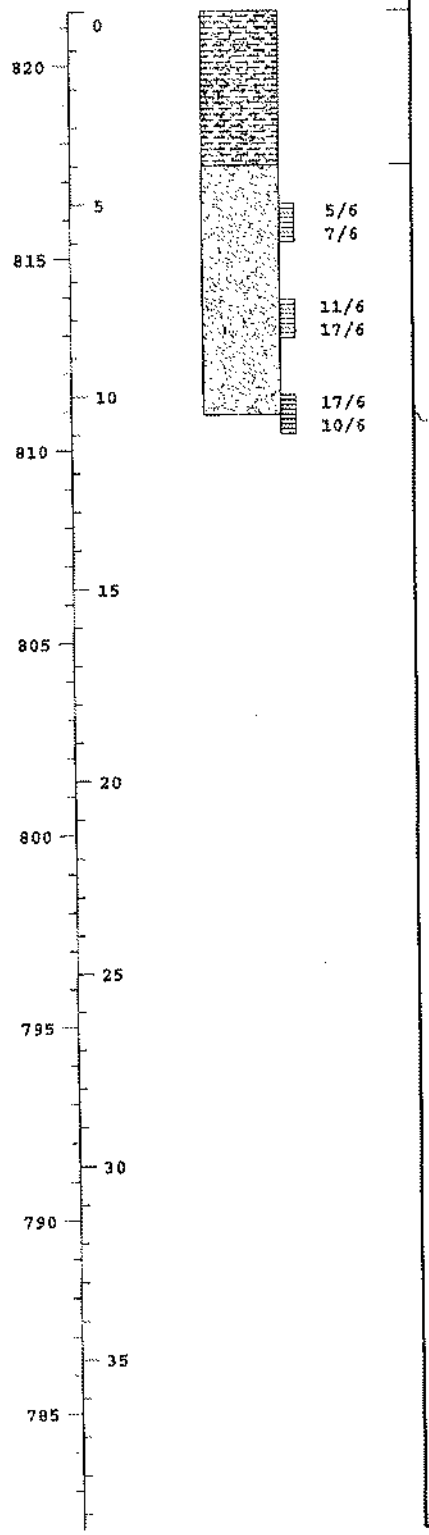
BORING NO.: S-5A **ELEVATION:** 821.4' **DRILLING DATE:** 07/19/2004

BORING LOCATION: 12' E/o ECF Arleta Ave. and 479' N/o NCF Wicks St.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Mirabueno **ENGINEER:** None



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
					FILL MATERIAL - Brown silty fine to medium sand with some gravel and trace of cobbles. Moist and dense. Bulk soil sample taken from 0 to 2½' depth. Encountered plastic trash @ 2' depth.		
		0		SP	Encountered unknown red clay structure or debris at 2½' depth. Hole was moved to 10' north of original hole. Drilled straight to 5' to bypass cobbles and debris at 2½' to 4' depth.	5.6	103
		0	0		Gray poorly graded fine to medium sand with few gravel. Moist and dense.	2.3	120
		0	0		Encountered gravelly sand lense @ 8' depth.	5.2	113

No free water.

Test Boring Location Coordinates:
34° 13' 30.62" N
118° 24' 30.25" W

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

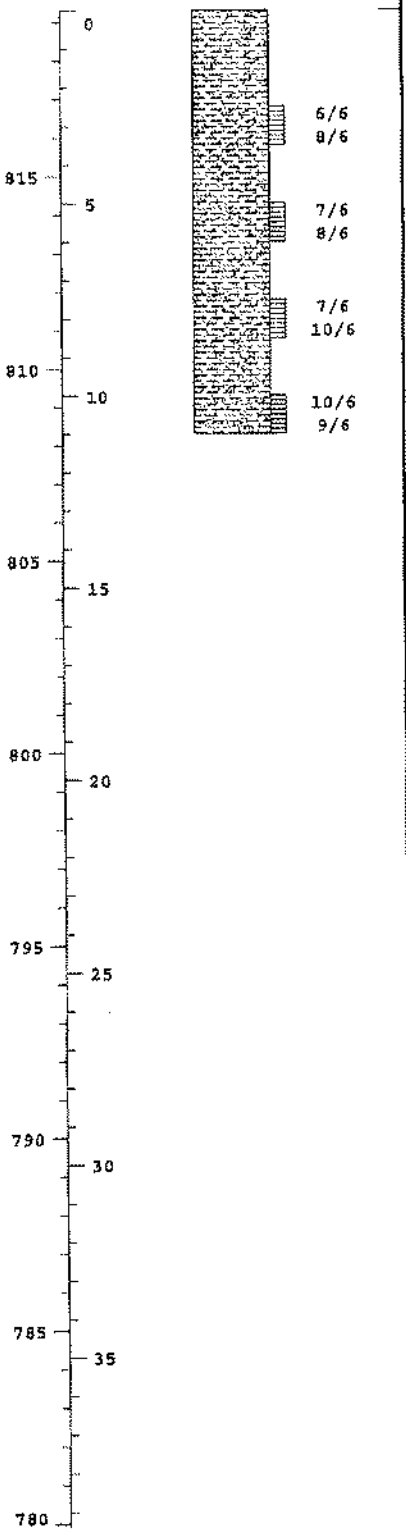
BORING NO.: S-6 **ELEVATION:** 819.3' **DRILLING DATE:** 07/08/2004

BORING LOCATION: 14' E/o ECF Arleta Ave. and 353' N/o NCF Wicks St.

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Ramirez **LOGGER:** Roth **ENGINEER:** None



ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
				SP-SM	Brown poorly graded fine medium sand with silt and some gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth.	0.9	86
		0	0.4			2.7	112
		0	0.6			3.7	104
		0	0			2.6	117
		0	0				
					No free water. Test Boring Location Coordinates: 34° 13' 29.80" N 118° 24' 28.88" W		

KEY TO SYMBOLS

Symbol	Description
STRATA	
	Silty sands, sand-silt mixtures
	Poorly graded sands or gravelly sands, little or no fines
	Well graded sand with silt.
	Poorly graded sand with silt.
	Clayey sands, sand-clay mixtures
	Base material.

Symbol	Description
SAMPLERS	
	Split Spoon.
	No sample recovery.

Notes:

1. The Notice to Proceed with the subsurface investigation was given by GED to Standards on 06/28/2004.

2. Exploratory borings were drilled from the period beginning on 06/29/2004 to 07/19/2004 with a CME-75HT drill rig using 8" diameter hollow stem augers.

3. Free water was not encountered during the drilling of this project.

4. Boring locations were provided by Geotechnical Services and verified by Standards. Test boring location coordinates were estimated using a hand held Trimble GPS device.

5. Abbreviations used on logs:
   N/o = north of NCF = north curb face NE = northeast
   S/o = south of SCF = south curb face NW = northwest
   E/o = east of ECF = east curb face SE = southeast
   W/o = west of WCF = west curb face SW = southwest
   C/L = center line PL = property line
   AC = asphalt concrete PCC = Portland cement concrete
   OVA = organic vapor analyzer LEL = lower explosive limit
   PM = parts per million HT = high torque

6. The stratification lines indicated on the boring maps and profiles represent the approximate boundary between material types and the transition may be gradual.

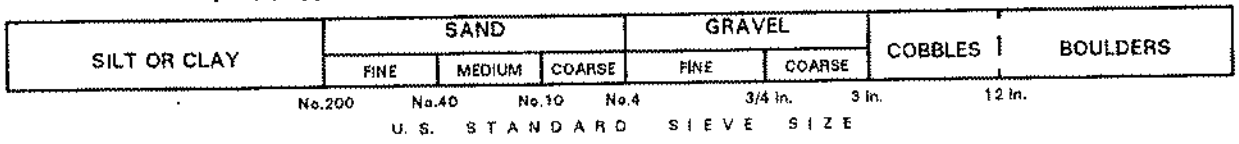
7. The materials, boundaries, and conditions have been established only at the boring locations, and are not necessarily representative of subsurface conditions elsewhere across the site.

UNIFIED SOIL CLASSIFICATION SYSTEM *

MAJOR OIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More then 50% of material is LARGER than No.200 sieve size)	GRAVELS (More than 50 % of coarse fraction is LARGER than the No.4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silt gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANOS (More than 50% of coarse fraction is SMALLER then the No.4 sieve size)	CLEAN SANOS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SDILS (More then 50% of materiel is SMALLER than No.200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty cleys, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS



* Reference:
The Unified Soil Classification System, Corps of Engineers,
U.S. Army Technical Memorandum No. 3-357, Vol. I, March 1953.
(Revised April, 1960)

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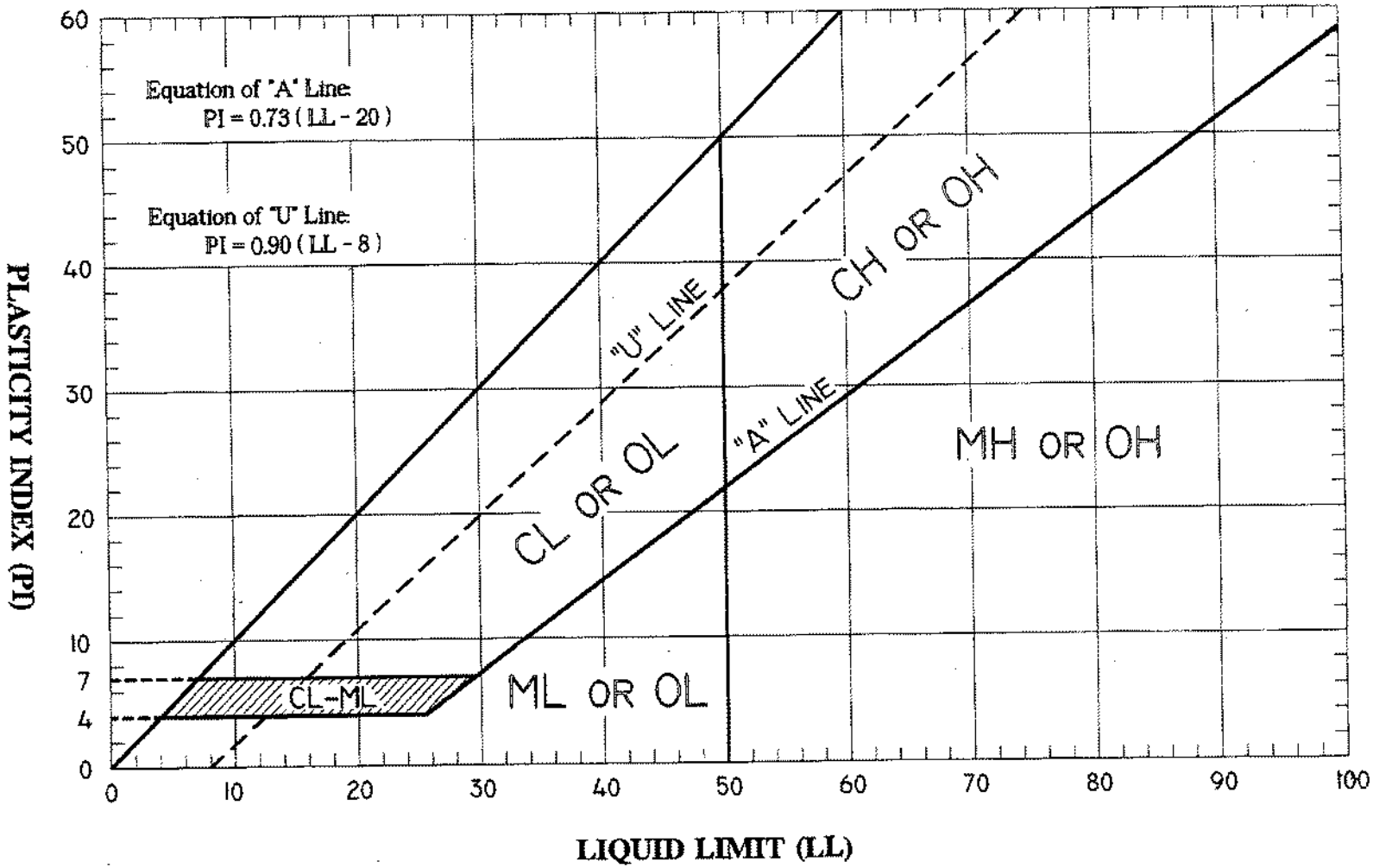
CLASSIFICATION OF FINE-GRAINED SOILS *



* Reference:
U.S. Army Corps of Engineers

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Lab. No.: 140-5358

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SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL

W.O. No: E1700500

LEGEND	Boring NO.	DEPTH (feet)	IN-PLACE DRY DENSITY (pcf)	MOISTURE %	
				Before	After
○	B-2	10'	112.5	3.7%	15.8%

NOTES:

NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

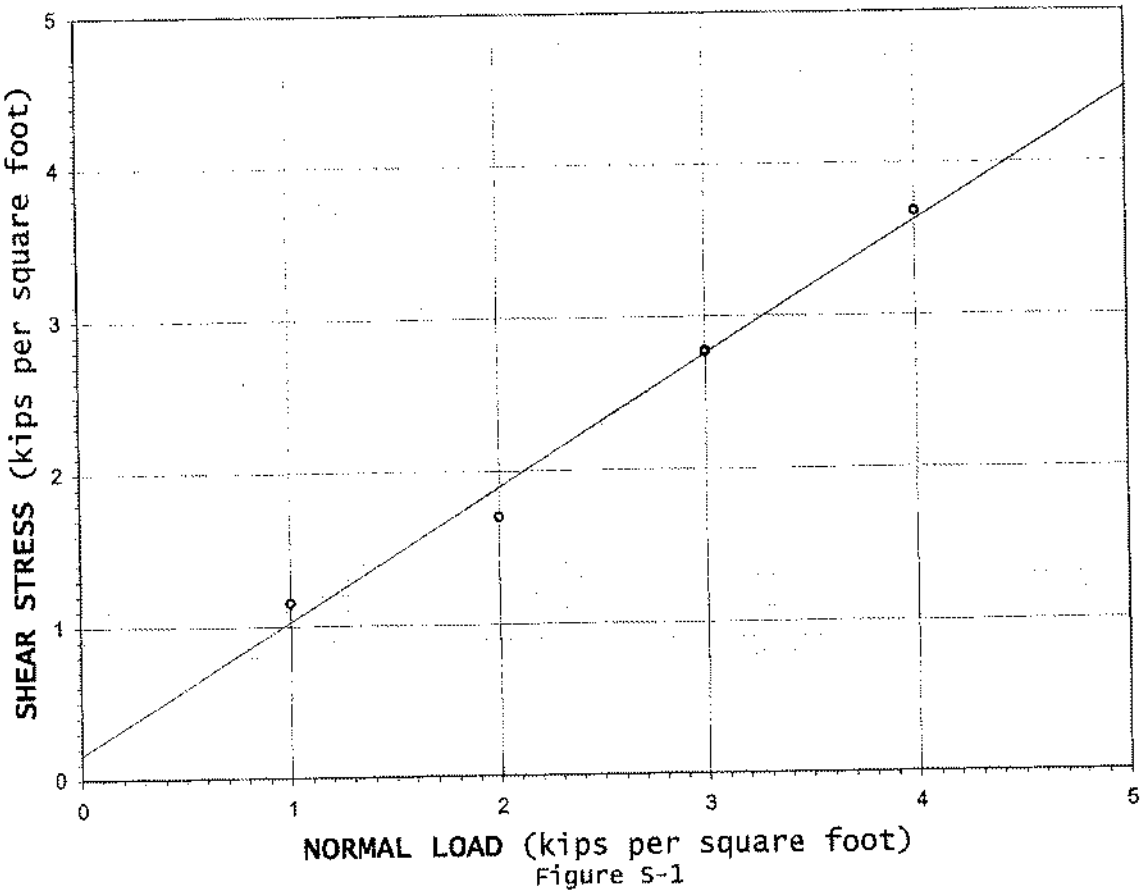

Figure S-1

	●	○
ϕ	40.91°	40.88°
c	0.160	0.160

Lab. No.: 140-5358

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SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL W.O. No: E1700500

LEGEND	Boring No.	DEPTH (ft)	IN-PLACE DRY DENSITY (pcf)	MOISTURE, %	
				Before	After
○	B-4	0-2.5'	136.0	6.6%	10.6%

NOTES:

NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

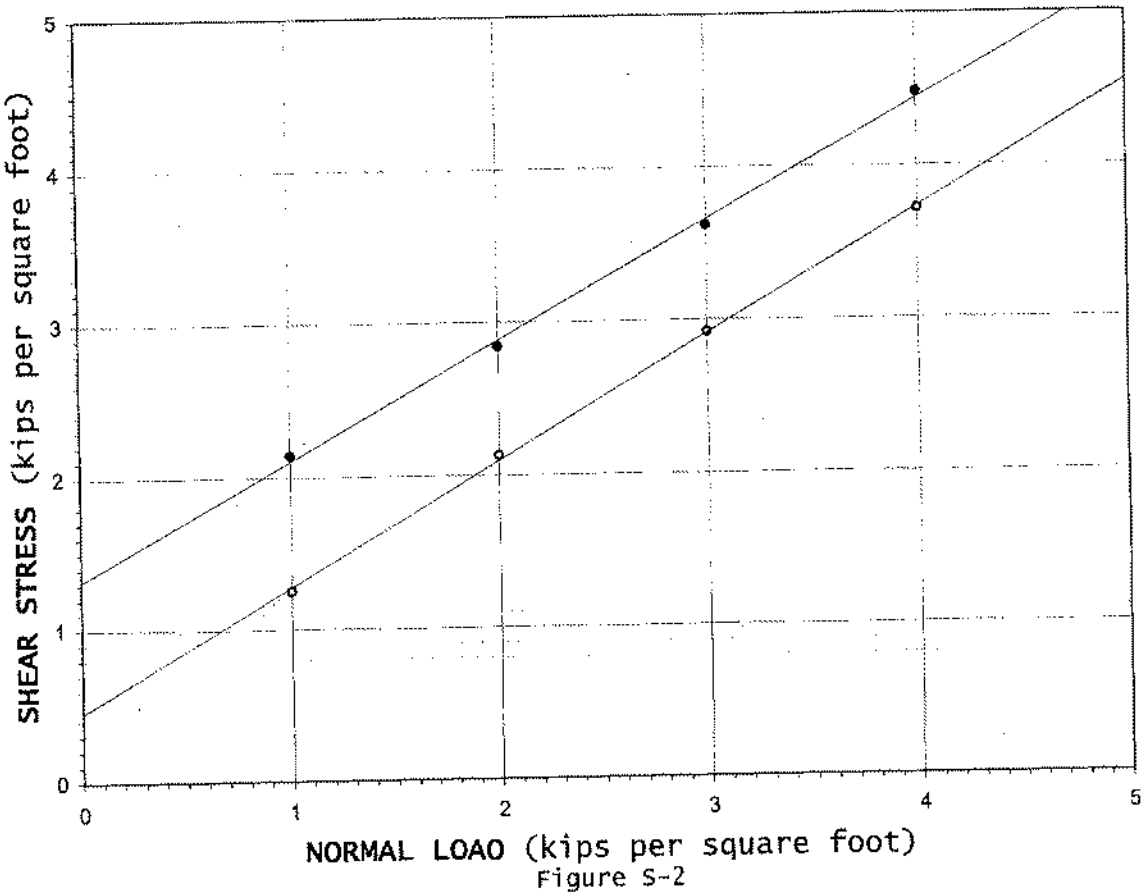

Figure S-2

	●	○
ϕ	37.93°	39.31°
c	1.322	0.457

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SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL

W.O. No: E1700500

LEGEND	Boring No.	DEPTH (feet)	IN-PLACE DRY DENSITY (pcf)	MOISTURE, %	
				SOFT	SND
O	B-6	10'	109.9	4.5%	16.8%

NOTES:

NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

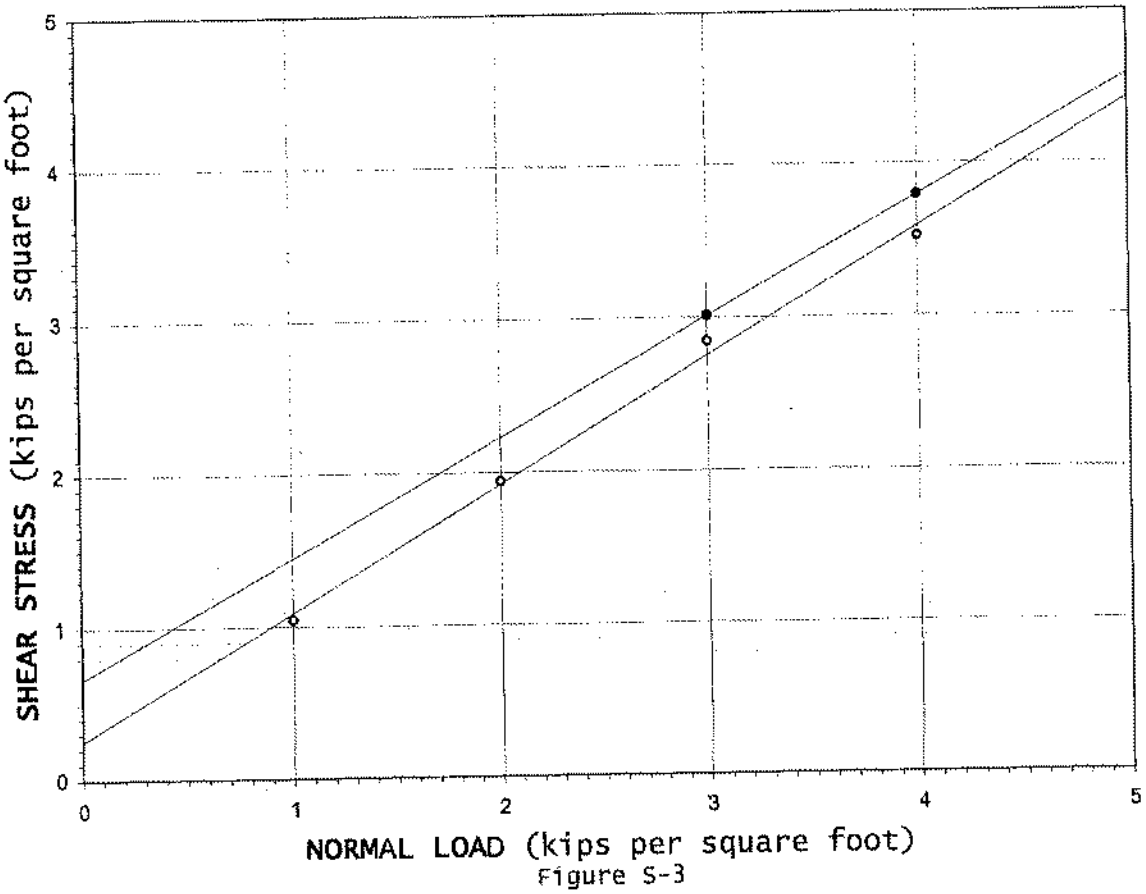

Figure S-3

	●	O
ϕ	38.05°	39.79°
c	0.672	0.255

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SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL

W.O. No: E1700500

LEGEND	Boring No.	DEPTH (feet)	IN-PLACE DRY DENSITY (pcf)	MOISTURE, %	
				Start	Test
○	S-2	7.5'	116.7	4.0%	15.3%

NOTES:

NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

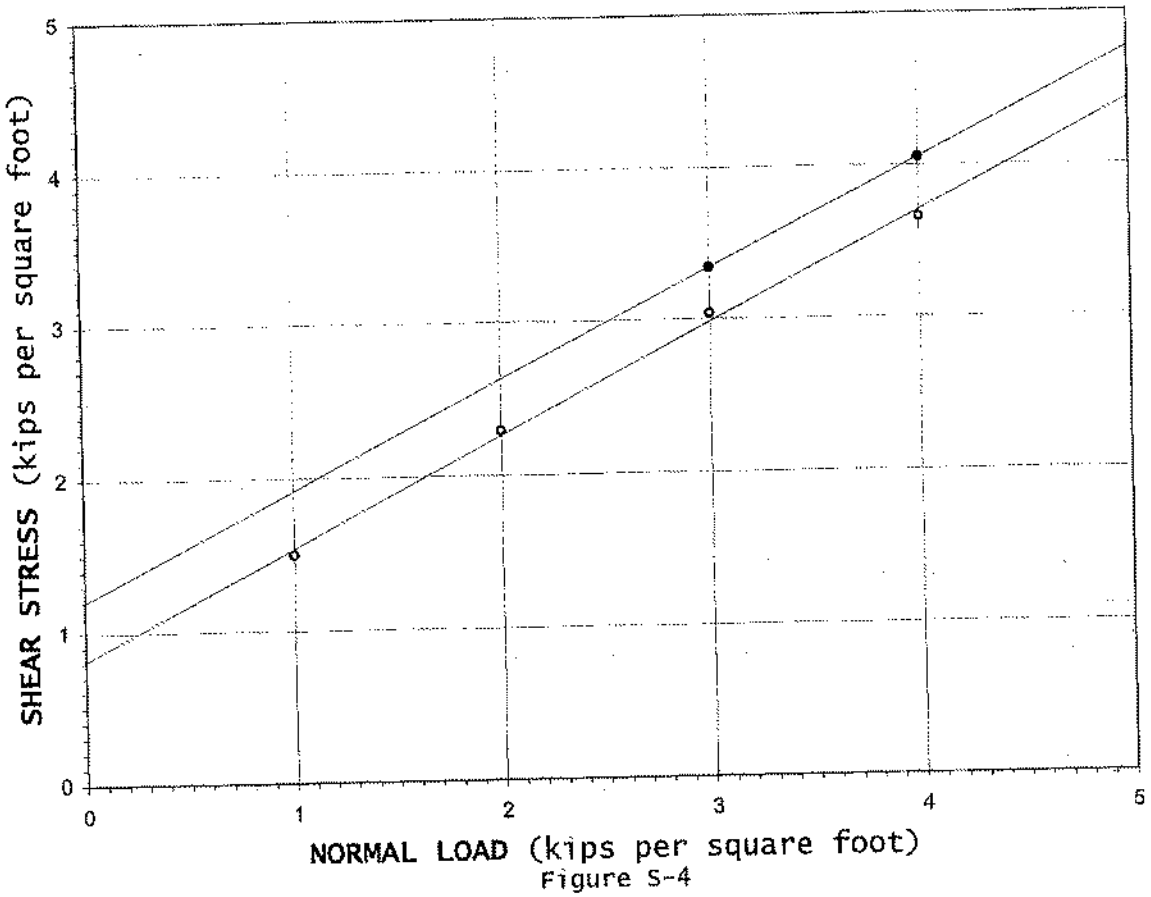

Figure S-4

	●	○
ϕ	35.43°	35.82°
c	1.204	0.817

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SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL W.O. No: E1700500

LEGEND	Boring NO.	DEPTH (feet)	IN-PLACE DRY DENSITY (pcf)	MOISTURE, %	
				BEFORE	AFTER
○	S-4A	5'	108.9	4.1%	16.1%

NOTES:

NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

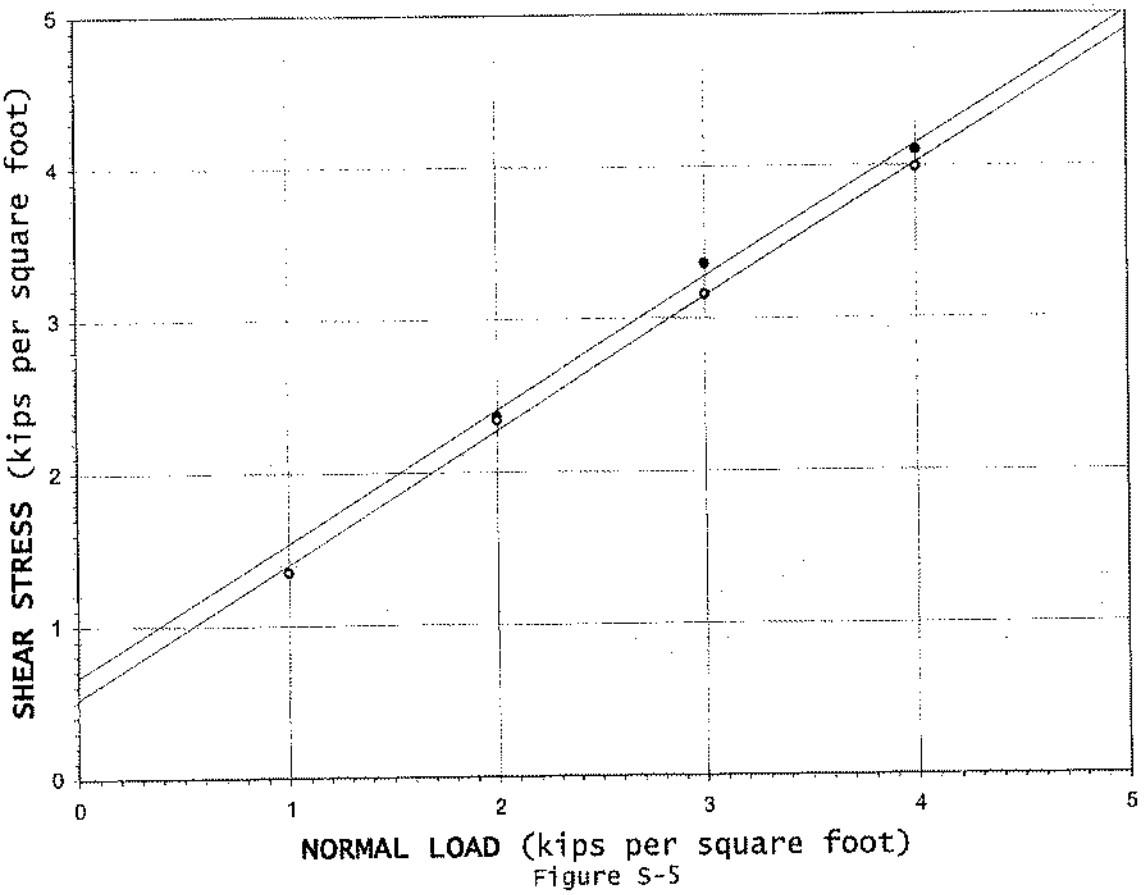

Figure S-5

	●	○
ϕ	41.01°	41.15°
c	0.667	0.525

Lab. No.: 140-5358

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STANDARDS DIVISION
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SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL W.O. No: E1700500

LEGEND	Boring No.	DEPTH (feet)	IN-PLACE DRY DENSITY (pcf)	MOISTURE, %	
				SHEAR	END
O	S-6	7.5'	104.1	3.7%	15.5%

NOTES:

NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

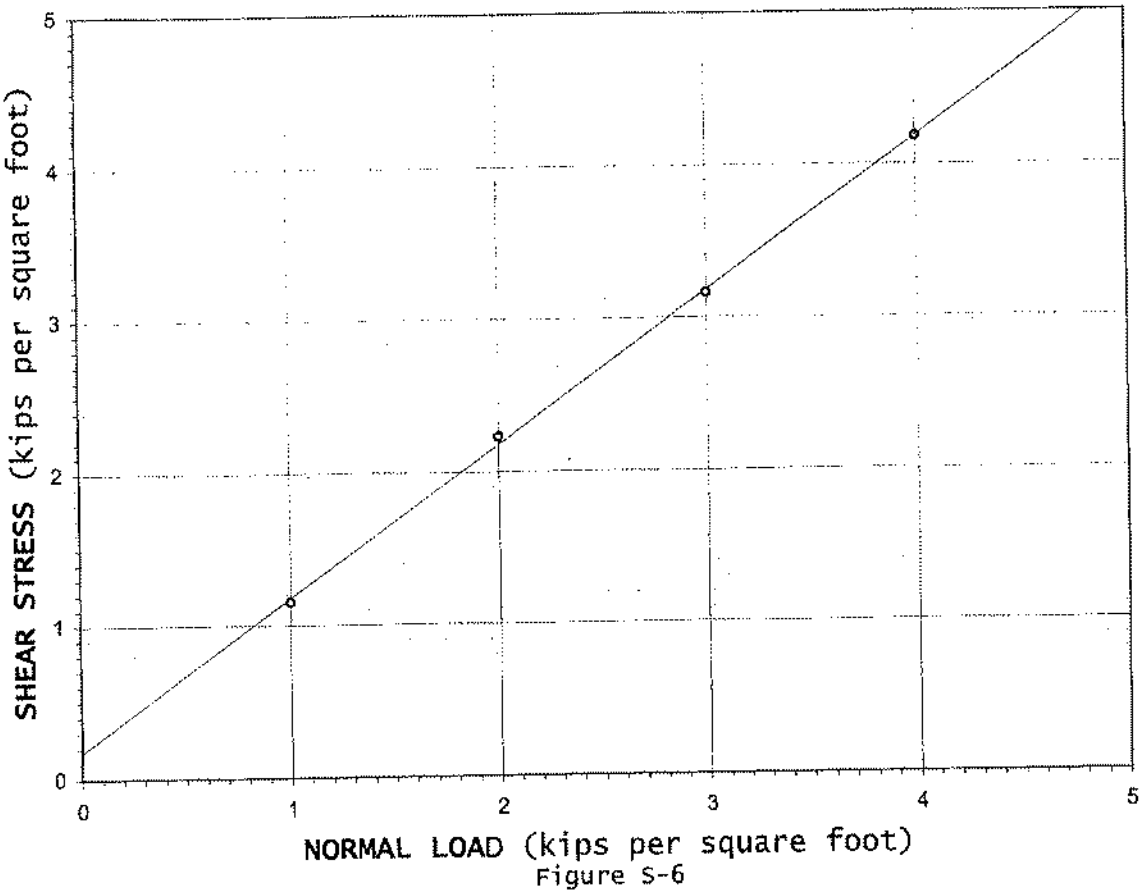
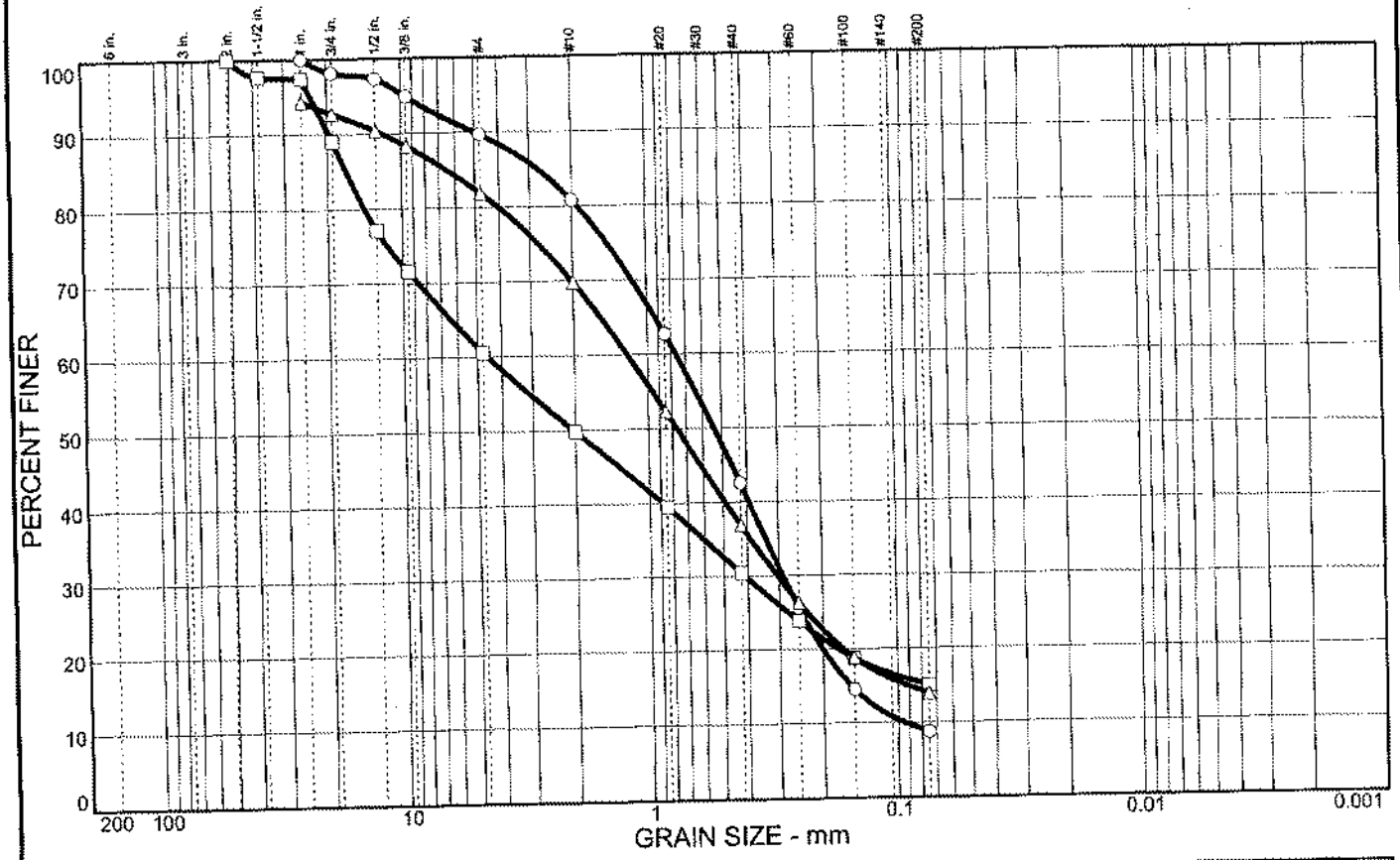


Figure S-6

	●	O
ϕ	45.06°	45.06°
c	0.175	0.175

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		10.3	81.0	8.7		SW-SM		N/P	
□		39.4	45.6	15.0		SM		N/P	
△			68.0	13.9		SM		N/P	

SIEVE inches size	PERCENT FINER ○	□	△
2		100.0	
1-1/2"		97.7	
1	100.0	97.4	94.3
3/4"	98.1	89.0	92.7
1/2"	97.3	77.1	90.4
3/8"	94.9	71.6	88.3
	GRAIN SIZE		
D_{60}	0.767	4.55	1.21
D_{30}	0.289	0.412	0.304
D_{10}	0.0949		
	COEFFICIENTS		
C_c	1.15		
C_u	8.08		

SIEVE number size	PERCENT FINER ○	□	△
#4	89.7	60.6	81.9
#10	80.8	49.8	69.8
#20	62.7	39.5	52.3
#40	42.6	30.4	36.9
#60	25.6	23.8	26.3
#100	14.5	18.7	18.8
#200	8.7	15.0	13.9

SOIL DESCRIPTION

○ Well-graded sand with silt

□ Silty sand

△ Silty sand with gravel

REMARKS:

○ F.M.=1.03

□ F.M.=1.62

△ F.M.=1.18

○ Source: Sample No.: B-2 Elev./Depth: 10'

□ Source: Sample No.: B-4 Elev./Depth: 0-2.5'

△ Source: Sample No.: B-4 Elev./Depth: 2.5'

CITY OF LOS ANGELES - STANDARDS DIVISION

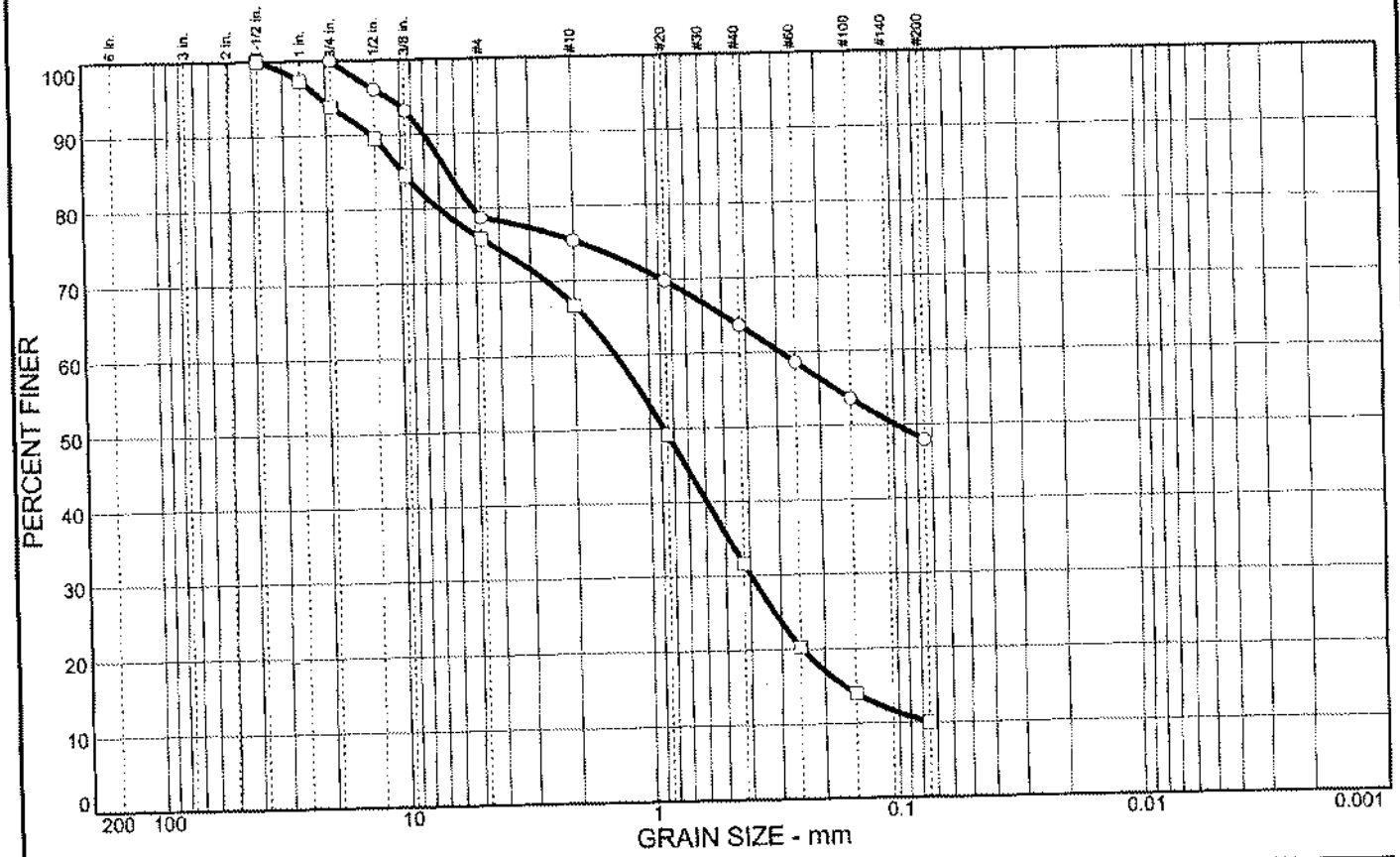
Client: Geotechnical Engineering Division

Project: SHELDON - ARLETA LANDFILL

Project No.: 140-5358

Figure GS-1

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		21.3	30.8	47.9		SC		19.2	31
□		24.1	65.9	10.0		SW-SM		N/P	

SIEVE inches size	○ PERCENT FINER	□ PERCENT FINER
1-1/2"		100.0
1		97.3
3/4"	100.0	93.9
1/2"	96.1	89.5
3/8"	93.2	84.5
GRAIN SIZE		
D_{60}	0.288	1.37
D_{30}		0.398
D_{10}		0.0750
COEFFICIENTS		
C_c		1.54
C_u		18.25

SIEVE number size	○ PERCENT FINER	□ PERCENT FINER
#4	78.7	75.9
#10	75.4	66.7
#20	69.8	49.2
#40	63.7	31.6
#60	58.6	20.3
#100	53.6	14.0
#200	47.9	10.0

SOIL DESCRIPTION

○ Clayey sand with gravel

□ Well graded sand with silt

REMARKS:

○ F.M.=0.75

□ F.M.=1.32

○ Source: Sample No.: B-5 Elev./Depth: 2.5'

□ Source: Sample No.: S-2 Elev./Depth: 0-2.5'

CITY OF LOS ANGELES - STANDARDS DIVISION

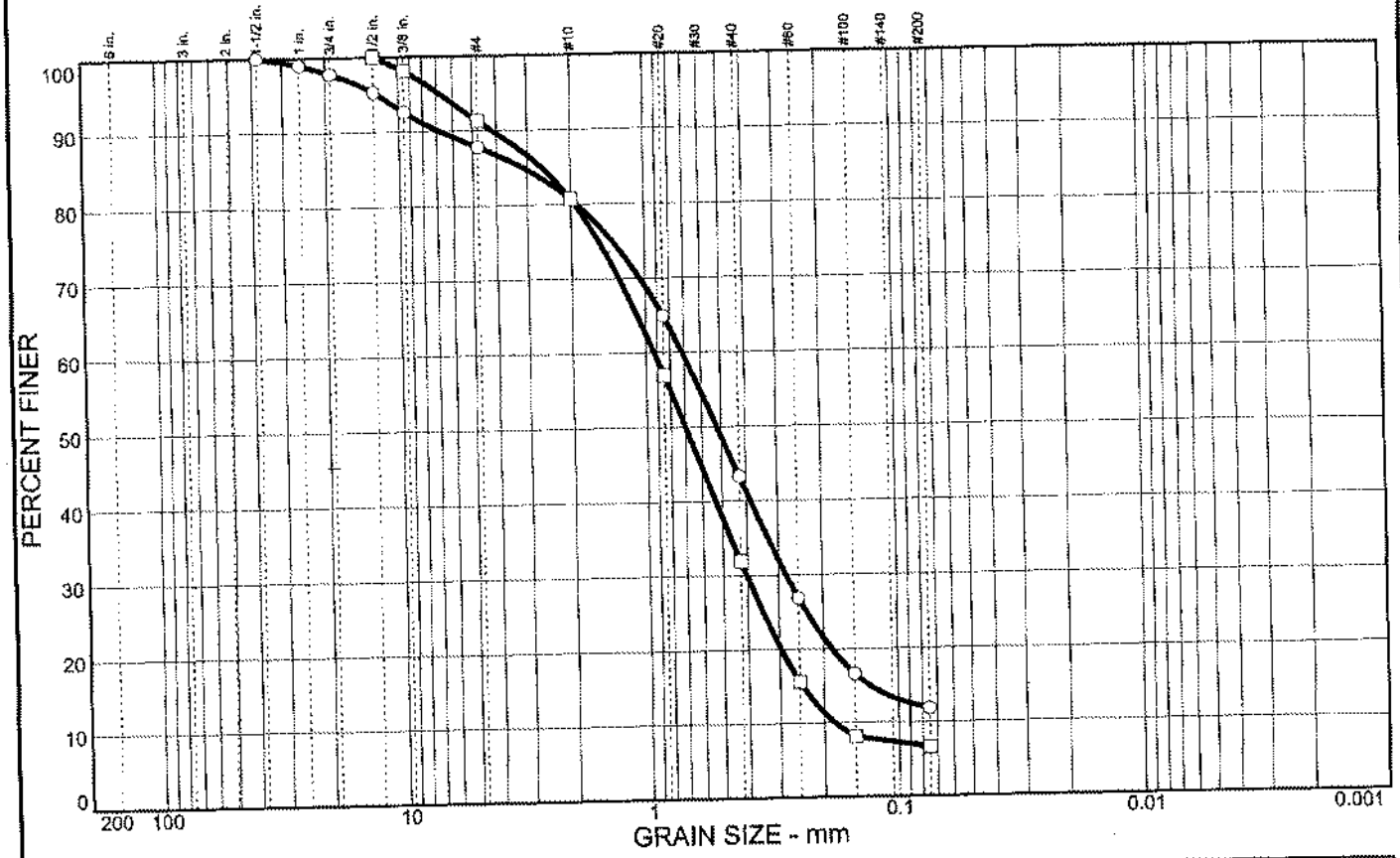
Client: Geotechnical Engineering Division

Project: SHELDON - ARLETA LANDFILL

Project No.: 140-5358

Figure GS-2

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		12.2	76.0	11.8		SP-SM		N/P	
□		8.7	84.7	6.6		SP-SM		N/P	

SIEVE inches size	PERCENT FINER ○	PERCENT FINER □
1-1/2"	100.0	
1	99.0	
3/4"	97.8	
1/2"	95.3	100.0
3/8"	92.6	98.1
	GRAIN SIZE	
D_{60}	0.714	0.928
D_{30}	0.279	0.403
D_{10}		0.182
	COEFFICIENTS	
C_c		0.96
C_u		5.11

SIEVE number size	PERCENT FINER ○	PERCENT FINER □
#4	87.8	91.3
#10	80.7	80.7
#20	64.9	57.0
#40	43.3	31.9
#60	26.9	15.6
#100	16.6	8.1
#200	11.8	6.6

SOIL DESCRIPTION

○ Poorly graded sand with silt

□ Poorly graded sand with silt

REMARKS:

○ F.M.=1.05

□ F.M.=1.02

○ Source: Sample No.: S-6 Elev./Depth: 0-2.5

□ Source: Sample No.: S-6 Elev./Depth: 2.5'

CITY OF LOS ANGELES - STANDARDS DIVISION

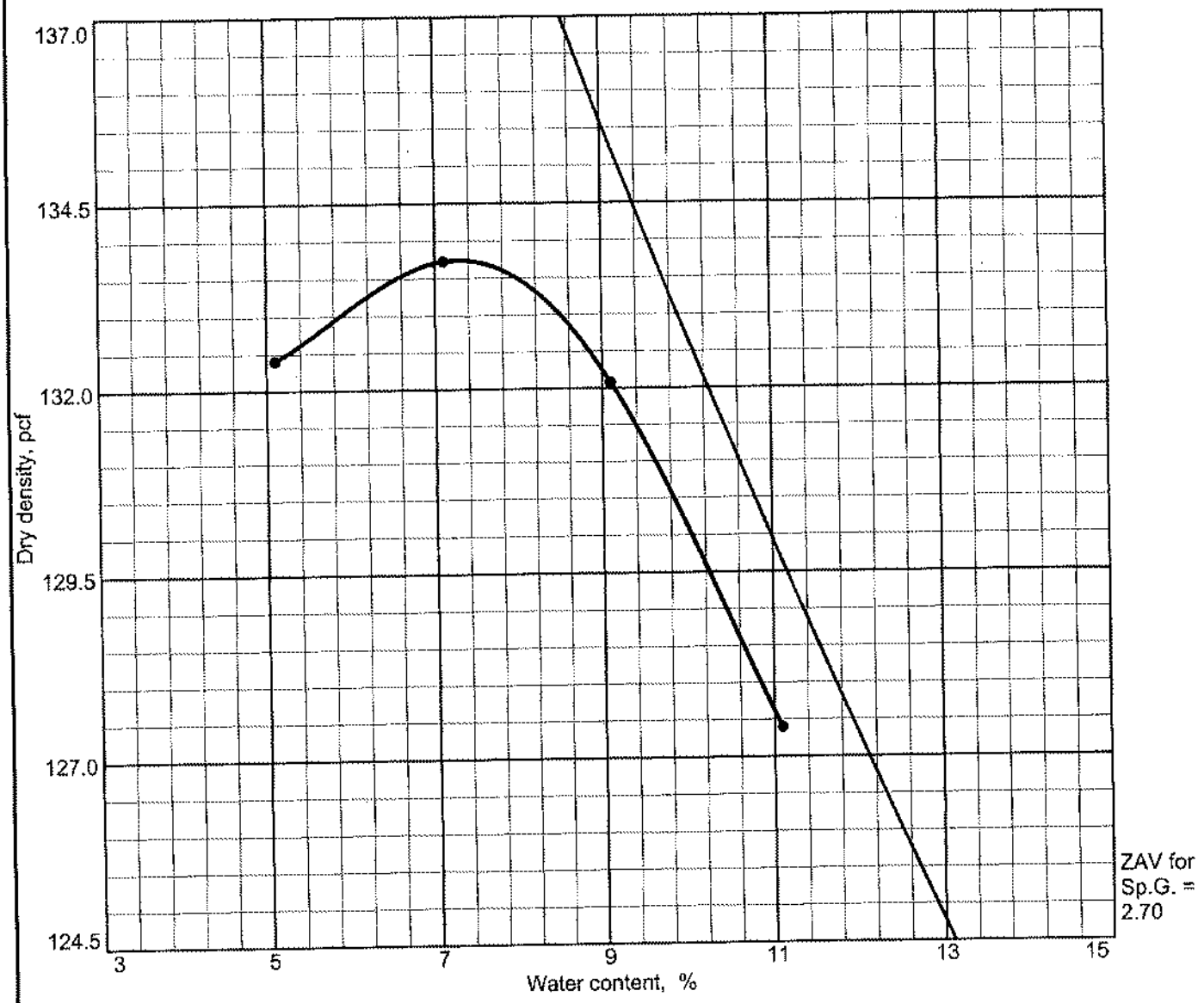
Client: Geotechnical Engineering Division

Project: SHELDON - ARLETA LANDFILL

Project No.: 140-5358

Figure GS-3

ASTM D1557-02: MOISTURE-DENSITY TEST



Test specification: ASTM D 1557-02 Procedure B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
0 - 5'				2.65				

TEST RESULTS

Maximum dry density = 133.7 pcf

Optimum moisture = 7.3 %

MATERIAL DESCRIPTION

Silty Sand with Gravel

Project No. E1700500 **Client:** GEOTECHNICAL/ENGINEERING/PW

Project: SHELDON/ARLETA LANDFILL

● **Source:** **Sample No.:** B-1 **Elev./Depth:** 0 - 5'

Remarks:

Date Sampled: 6-29-2004

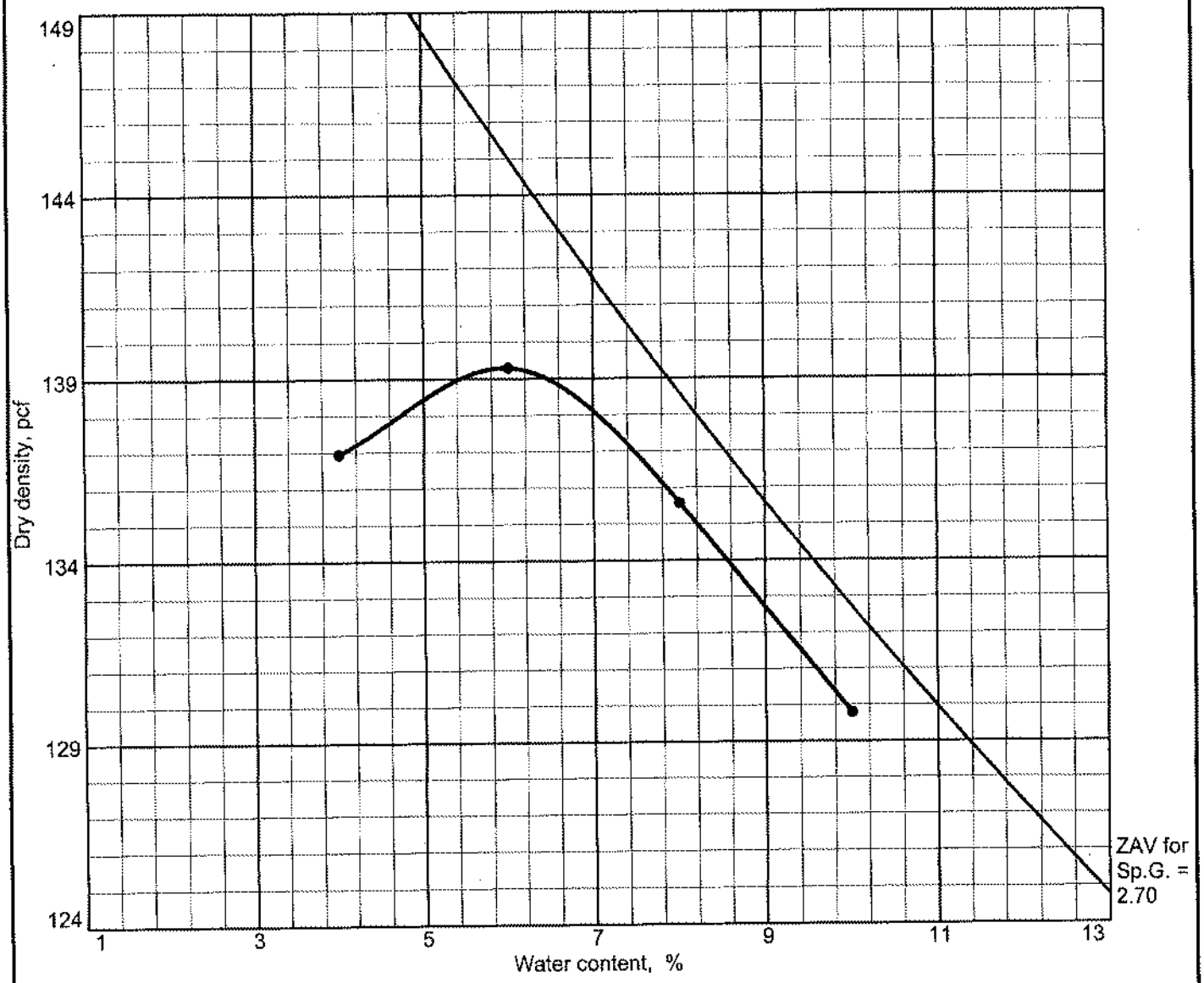
Project: 140-5358

ASTM D1557-02: MOISTURE-DENSITY TEST

CITY OF LOS ANGELES - STANDARDS DIVISION

Figure 1

ASTM D1557-02: MOISTURE-DENSITY TEST



Test specification: ASTM D 1557-02 Procedure C Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
0 - 2.5'				2.65				

TEST RESULTS

Maximum dry density = 139.3 pcf

Optimum moisture = 6.0 %

MATERIAL DESCRIPTIDN

Silty Sand with Gravel

Project No. E1700500 **Client:** GEOTECHNICAL/ENGINEERING/PW

Project: SHELDON/ARLETA LANDFILL

● **Source:** **Sample No.:** B-2 **Elev./Depth:** 0 - 2.5'

Remarks:

Date Sampled: 6-29-2004

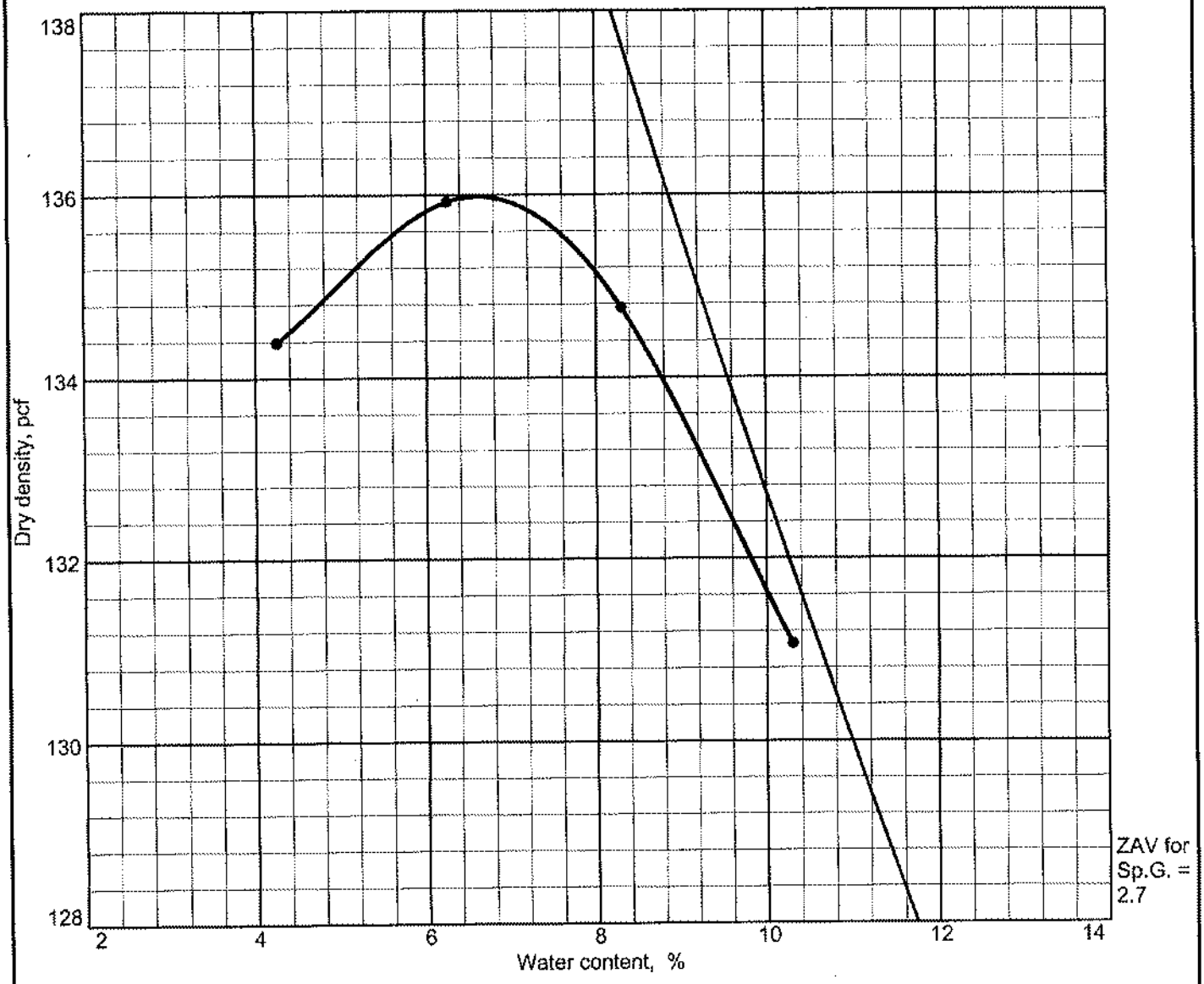
Project: 140-5358

ASTM D1557-02: MOISTURE-DENSITY TEST

CITY OF LOS ANGELES - STANDARDS DIVISION

Figure 2

ASTM D1557-02: MOISTURE-DENSITY TEST



Test specification: ASTM D 1557-02 Procedure C Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
0 - 2.5'				2.7				

TEST RESULTS

Maximum dry density = 136.0 pcf

Optimum moisture = 6.6 %

MATERIAL DESCRIPTION

Silty Sand With Gravel

Project No. E1700500 **Client:** GEOTECHNICAL/ENGINEERING/PW

Project: SHELDON/ARLETA LANDFILL

● **Source:** **Sample No.:** B-4 **Elev./Depth:** 0 - 2.5'

Remarks:

Date Sampled: 6-29-2004

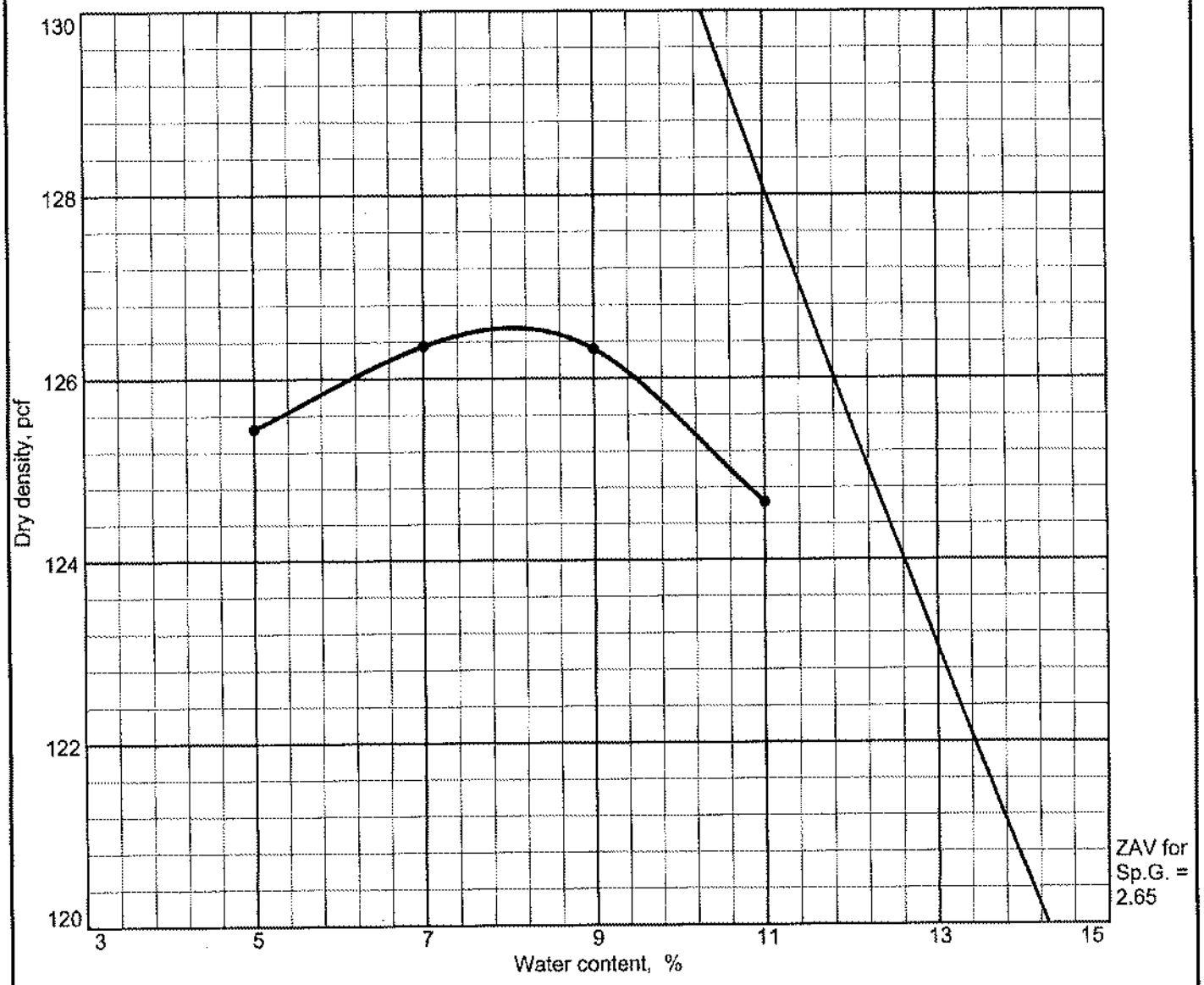
Project: 140-5358

ASTM D1557-02: MOISTURE-DENSITY TEST

CITY OF LOS ANGELES - STANDARDS DIVISION

Figure 3

ASTM D1557-02: MOISTURE-DENSITY TEST



Test specification: ASTM D 1557-02 Procedure B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
0 - 2.5'				2.65				

TEST RESULTS

Maximum dry density = 126.6 pcf

Optimum moisture = 8.0 %

MATERIAL DESCRIPTION

Poorly Graded Sand with Gravel

Project No. E1700500 **Client:** GEOTECHNICAL/ENGINEERING/PW

Project: SHELDON/ARLETA LANDFILL

● **Source:** **Sample No.:** S-1 **Elev./Depth:** 0 - 2.5'

Remarks:

Date Sampled: 6-29-2004

Project: 140-5358

ASTM D1557-02: MOISTURE-DENSITY TEST

CITY OF LOS ANGELES - STANDARDS DIVISION

Figure 4

GSD Standards Division Fax:213-485-5075

** Transmit Conf. Report **

P.1 Aug 10 2004 13:17

Telephone Number	Mode	Start	Time	Page	Result	Note
98474048	NORMAL	10,13:12	5'03"	14	* O K	

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242

Lab. No.: 140- 5358

TEST BORING DATA

Job Title: SHELDON - ARLETA LANDFILL **Work Order No:** E1700500

Test Boring No.	B-1			B-2				B-3	B-3A	
Sample Depth, ft.	0-5'	10'	15'	0-2.5	2.5'	5'	10'	2.5'	25'	27'
In Place Dry Density, pcf		121.8	113.1		122.5	126.2	112.5	99.4	108.7	122.2
Field Moisture, %		2.1	2.2		5.3	1.2	3.7	4.6	7.5	4.6
Lab. Max. Dry Density, pcf	133.7			139.3						
Lab. Optimum Moisture, %	7.3			6.0						
Relative Compaction, %										
Mechanical Analysis (% Passing)										
3/4"							98.1			
No. 4							89.7			
No. 10							80.8			
No. 20							62.7			
No. 40							42.6			
No. 60							25.6			
No. 100							14.5			
No. 200							8.7			
5 μ (Micron), %										
Liquid Limit							N/P			
Plasticity Index										
USCS Classification							SW-SM			

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242

Lab. No.: 140- 5358

TEST BORING DATA

Job Title: SHELDON - ARLETA LANDFILL **Work Order No:** E1700500

Test Boring No.	B-4			B-5	B-6				
Sample Depth, ft.	0-2.5'	2.5'	5'	2.5	5'	7.5'	10'	15'	20'
In Place Dry Density, pcf		116.6	111.5	114.2	108.7	117.6	109.9	110.0	118.6
Field Moisture, %		5.1	10.7	13.5	4.0	3.2	4.5	2.0	2.4
Lab. Max. Dry Density, pcf	136.0								
Lab. Optimum Moisture, %	6.6								
Relative Compaction, %									
Mechanical Analysis (% Passing)									
3/4"	89.0	92.7		100.0					
No. 4	60.6	81.9		78.7					
No. 10	49.8	69.8		75.4					
No. 20	39.5	52.3		69.8					
No. 40	30.4	36.9		63.7					
No. 60	23.8	26.3		58.6					
No. 100	18.7	18.8		53.6					
No. 200	15.0	13.9		47.9					
5 μ (Micron), %									
Liquid Limit	N/P	N/P		31.0					
Plasticity Index				10.8					
USCS Classification	SM	SM		SC					

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242

Lab. No.: 140- 5358

TEST BORING DATA

Job Title: SHELDON - ARLETA LANDFILL **Work Order No:** E1700500

Test Boring No.	S-1			S-2			S-3		
Sample Depth, ft.	0-2.5	5'	7.5'	2.5'	5'	7.5'	5'	7.5'	10'
In Place Dry Density, pcf		119.4	116.8	122.8	122.9	116.7	121.8	118.6	118.1
Field Moisture, %		2.6	3.1	8.2	2.0	4.0	3.4	3.8	3.0
Lab. Max. Dry Density, pcf	126.6								
Lab. Optimum Moisture, %	8.0								
Relative Compaction, %									
Mechanical Analysis (% Passing)									
3/4"									
No. 4									
No. 10									
No. 20									
No. 40									
No. 60									
No. 100									
No. 200									
5 μ (Micron), %									
Liquid Limit									
Plasticity Index									
USCS Classification									

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242

Lab. No. 140- 5358

TEST BORING DATA

Job Title: SHELDON - ARLETA LANDFILL **Work Order No:** E1700500

Test Boring No.	S-4A			S-5A			S-6				
Sample Depth, ft.	5'	7.5'	10'	5'	7.5'	10'	0-2.5'	2.5'	5'	7.5'	10'
In Place Dry Density, pcf	108.9	110.4	108.8	102.6	120.4	112.6		86.0	111.9	104.1	117.4
Field Moisture, %	4.1	3.9	4.6	5.6	2.3	5.2		0.9	2.7	3.7	2.6
Lab. Max. Dry Density, pcf											
Lab. Optimum Moisture, %											
Relative Compaction, %											
Mechanical Analysis (% Passing)											
3/4"								100.0			
No. 4								91.3			
No. 10								80.7			
No. 20								57.0			
No. 40								31.9			
No. 60								15.6			
No. 100								8.1			
No. 200								6.6			
5 μ (Micron), %											
Liquid Limit								N/P			
Plasticity Index											
USCS Classification								SP-SM			

CITY OF LOS ANGELES

Lab. No.: 05-305-01

DEPARTMENT OF GENERAL SERVICES

STANDARDS DIVISION

2319 DORRIS PLACE

LOS ANGELES, CA 90031

(213) 485-2242

Date: 8/3/2004

TEST DATA

R-VALUE

Job Title: SHELDON - ARLETA LANDFILL

Date Received: 7/8/2004

Job Number: 140-5358

	Composite Data		
	I	II	III
Initial Moisture %	5.2	5.2	5.2
Moisture after soaking%	7.3	7.5	8.1
Dry Weight, p.c.f.	131.6	132.2	131.4
Exudation Pressure, p.s.i.	377	274.5	123.3
Expansion Pressure Developed, p.s.i.	0.03	0.03	0.03
Stabilometer "R" Value	81	81	72.4
Thickness indicated by Stabilometer, ft.	0.49	0.49	0.71
Thickness indicated by Expansion Pressure, ft.	0.03	0.03	0.03

R-Value at Equilibrium Condition / STABILOMETER R-VALUE	81
Minimum Thickness for Conditions given below, ft.	0.49

Section	Gravel Factor	Traffic Index
-	1	8

SOIL SAMPLES COMBINED	Test Hole No.:	T.H.# S-2
	Depth:	0 - 2.5'
COMPOSITE SOIL DATA		
% Passing No. 200		10
Liquid Limit		N/P
Plasticity index		0
Unified Soil Classification		SW-SM

CITY OF LOS ANGELES

Lab. No.: 05-305-02

DEPARTMENT OF GENERAL SERVICES

STANDARDS DIVISION

2319 DORRIS PLACE

LOS ANGELES, CA 90031

(213) 485-2242

Date: 8/3/2004

TEST DATA

R-VALUE

Job Title: SHELDON - ARLETA LANDFILL

Date Received: 7/8/2004

Job Number: 140-5358

	Composite Data		
	I	II	III
Initial Moisture %	5.8	5.8	5.8
Moisture after soaking%	7.4	7.7	7.8
Dry Weight, p.c.f.	130.2	129.5	129.8
Exudation Pressure, p.s.i.	415.4	280.1	243.5
Expansion Pressure Developed, p.s.i.	0	0	0
Stabilometer "R" Value	83.2	81.4	68.2
Thickness indicated by Stabilometer, ft.	0.43	0.48	0.81
Thickness indicated by Expansion Pressure, ft.	0	0	0

R-Value at Equilibrium Condition / STABILOMETER R-VALUE		81.5
Minimum Thickness for Conditions given below, ft.		0.47
Section	Gravel Factor	Traffic Index
-	1	8

SOIL SAMPLES COMBINED		
	Test Hole No.:	T-H # S-3
	Depth:	0 - 2.5'
COMPOSITE SOIL DATA		
% Passing No. 200		11.3
Liquid Limit		N/P
Plasticity index		0
Unified Soil Classification		SP-SM

CITY OF LOS ANGELES

Lab. No.: 05-305-03

DEPARTMENT OF GENERAL SERVICES

Date: 8/3/2004

STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242

TEST DATA

R-VALUE

Job Title: SHELDON - ARLETA LANDFILL
Date Received: 7/8/2004
Job Number: 140-5358

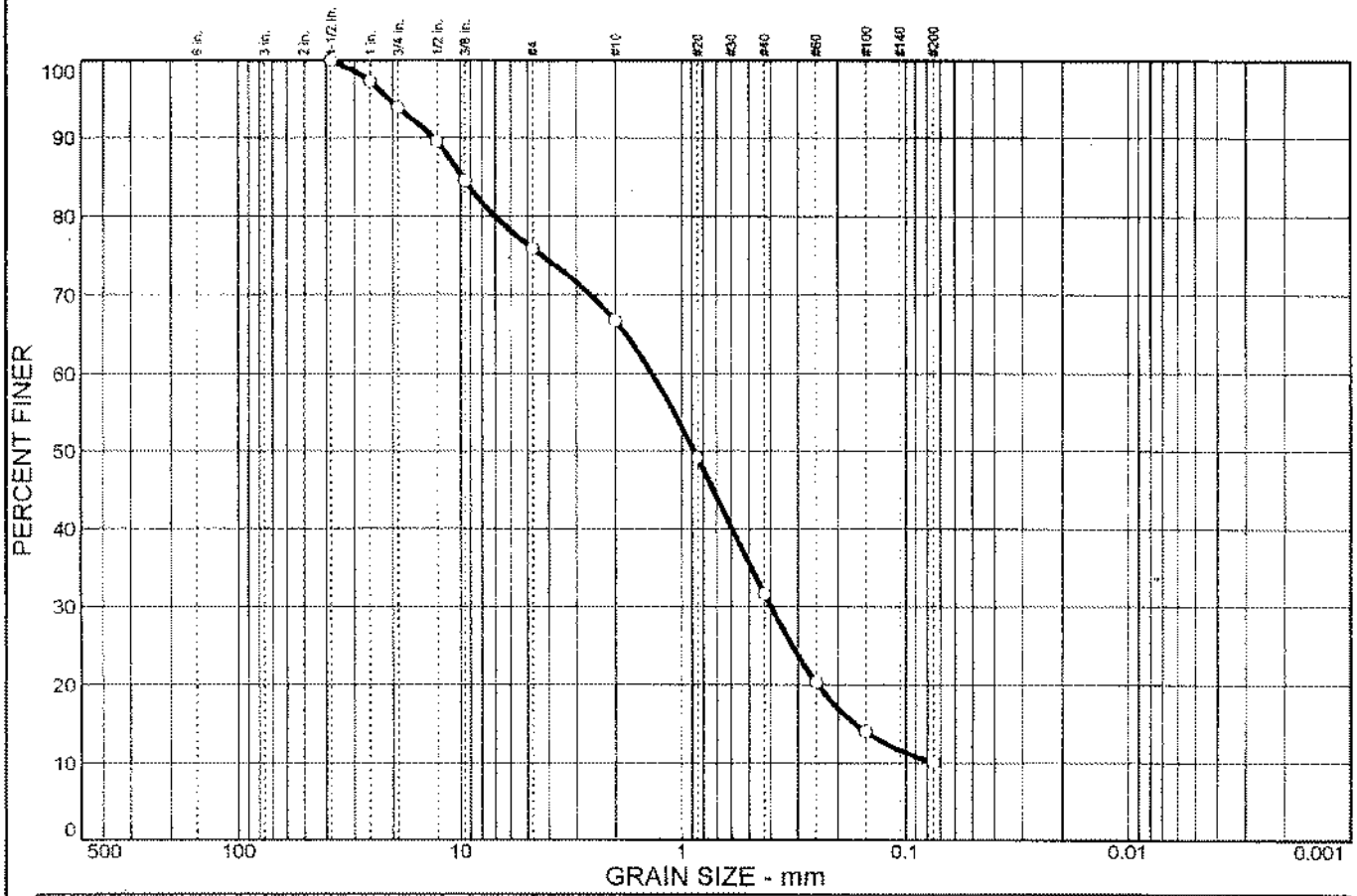
	Composite Data		
	I	II	III
Initial Moisture %	5.2	5.2	5.2
Moisture after soaking%	7.7	8.2	8.4
Dry Weight, p.c.f.	127.1	126.9	126.4
Exudation Pressure, p.s.i.	415.4	353.3	262.6
Expansion Pressure Developed, p.s.i.	0.03	0.03	0.03
Stabilometer "R" Value	80.5	80.4	76.7
Thickness indicated by Stabilometer, ft.	0.5	0.5	0.6
Thickness indicated by Expansion Pressure, ft.	0.03	0.03	0.03

R-Value at Equilibrium Condition / STABILOMETER R-VALUE	78.5
Minimum Thickness for Conditions given below, ft.	0.55

Section	Gravel Factor	Traffic Index
-	1	8

SOIL SAMPLES COMBINED	**Test Hole No.:**	T.H.# S-6
	Depth:	0 - 2.5'
COMPOSITE SOIL DATA		
% Passing No. 200		11.8
Liquid Limit		N/P
Plasticity index		0
Unified Soil Classification		SP-SM

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	6.1	18.0	9.2	35.1	21.6	10.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
1 in.	97.3		
0.75 in.	93.9		
0.50 in.	89.5		
0.375 in.	84.5		
#4	75.9		
#10	66.7		
#20	49.2		
#40	31.6		
#60	20.3		
#100	14.0		
#200	10.0		

* (no specification provided)

Soil Description

Well-graded sand with silt and gravel

Atterberg Limits

PL= N/P LL= N/P PI= 0

Coefficients

D_{85}= 9.80 D_{60}= 1.37 D_{50}= 0.878
D_{30}= 0.398 D_{15}= 0.167 D_{10}= 0.0750
C_u= 18.25 C_c= 1.54

Classification

USCS= SW-SM AASHTO=

Remarks

F.M.=1.32

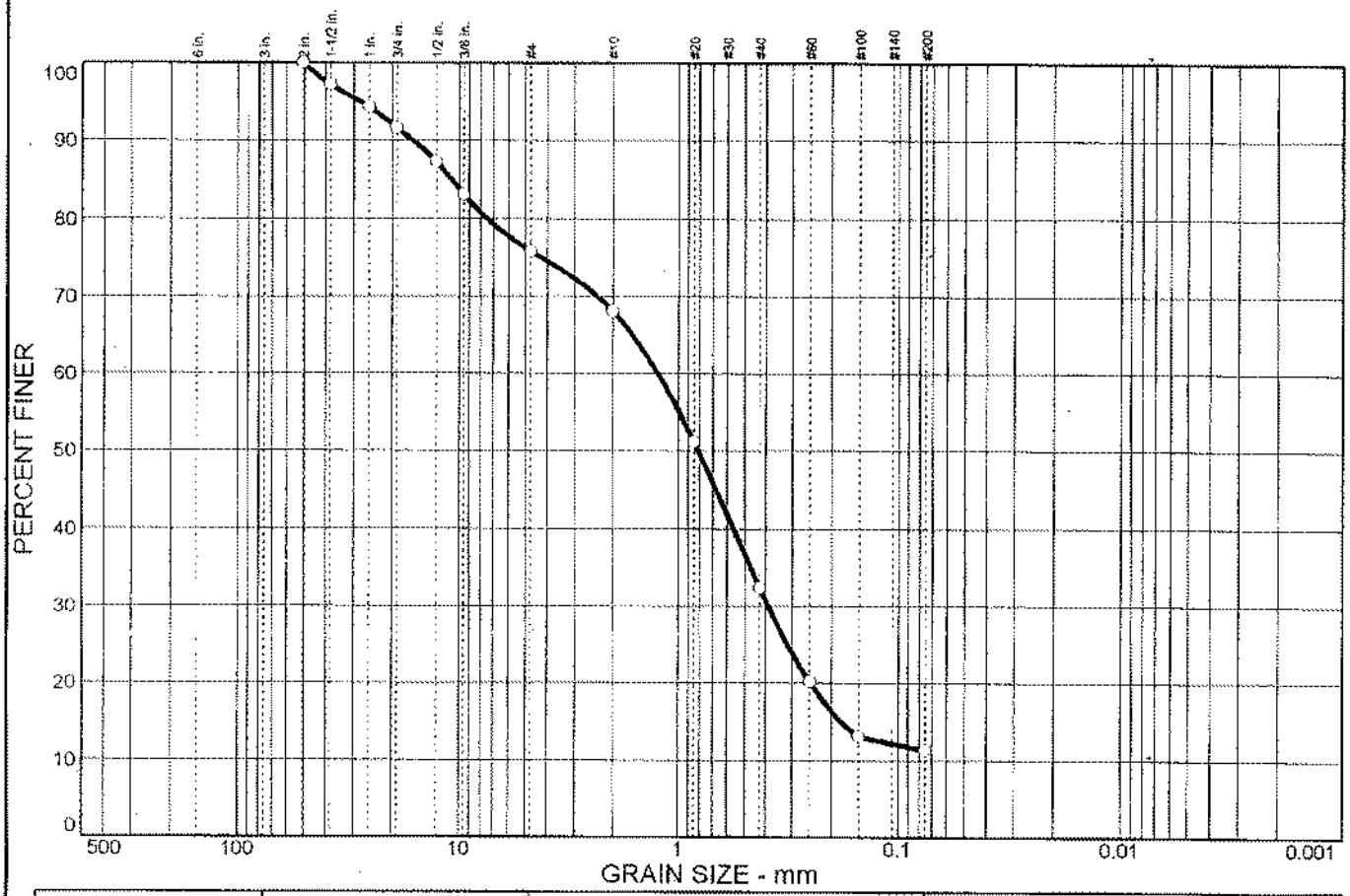
Sample No.: **Source of Sample:** **Date:** 08-04-04
Location: T.H.# S-2 **Elev./Depth:** 0-2.5'

CITY OF LOS ANGELES - STANDARDS DIVISION

Client: GEOTECHNICAL DIVISION - ENGINEERING
Project: SHELDON - ARLETA LANDFILL

Project No: 140-5358 **Figure**

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	8.4	15.8	7.7	35.7	21.1	11.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0		
1.5 in.	97.2		
1 in.	94.3		
0.75 in.	91.6		
0.5 in.	87.3		
0.375 in.	83.1		
#4	75.8		
#10	68.1		
#20	51.2		
#40	32.4		
#60	20.2		
#100	13.1		
#200	11.3		

* (no specification provided)

Soil Description

Poorly graded sand with silt and gravel

Atterberg Limits

PL= N/P LL= N/P PI= 0

Coefficients

D_{85}= 10.8 D_{60}= 1.24 D_{50}= 0.811
D_{30}= 0.387 D_{15}= 0.180 D_{10}=
C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

F.M.=1.39

Sample No.: **Source of Sample:** **Date:** 08-04-04

Location: T.H.# S-3 **Elev./Depth:** 0-2.5'

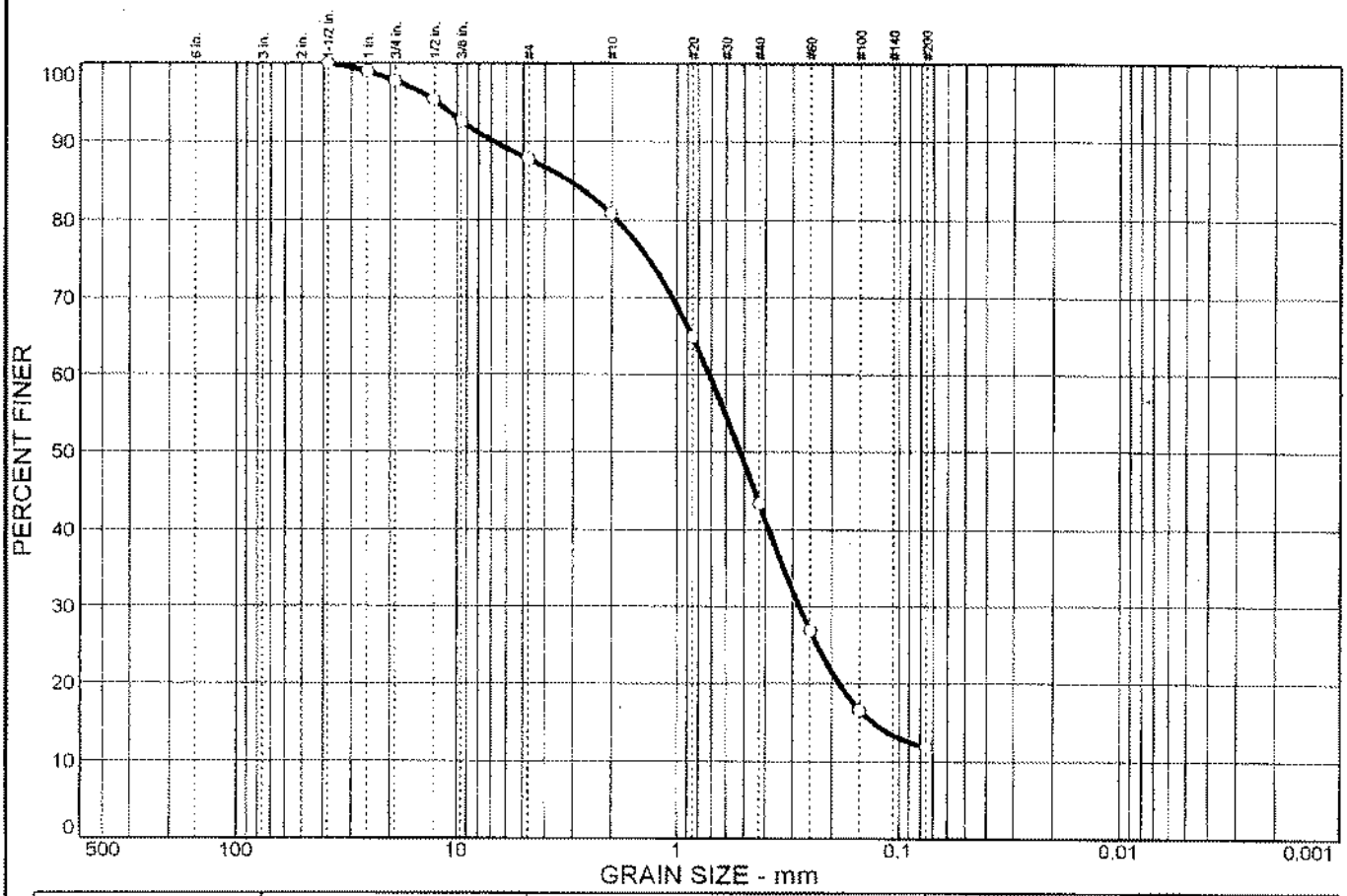
CITY OF LOS ANGELES - STANDARDS DIVISION

Client: GEOTECHNICAL DIVISION - ENGINEERING

Project: SHELDON - ARLETA LANDFILL

Project No: 140-5358 **Figure**

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	2.2	10.0	7.1	37.4	31.5	11.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
1 in.	99.0		
0.75 in.	97.8		
0.5 in.	95.3		
0.375 in.	92.6		
#4	87.8		
#10	80.7		
#20	64.9		
#40	43.3		
#60	26.9		
#100	16.6		
#200	11.8		

* (no specification provided)

Soil Description

Poorly graded sand with silt

Atterberg Limits

PL= N/P LL= N/P PI= 0

Coefficients

D_{85}= 3.13 D_{60}= 0.714 D_{50}= 0.520
D_{30}= 0.279 D_{15}= 0.131 D_{10}=
C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

F.M.=1.05

Sample No.: **Source of Sample:** **Date:** 08-04-04
Location: T.H.# S-6 **Elev./Depth:** 0-2.5'

CITY OF LOS ANGELES - STANDARDS DIVISION

Client: GEOTECHNICAL DIVISION - ENGINEERING
Project: SHELDON - ARLETA LANDFILL

Project No: 140-5358 **Figure**

Form GS/STD 911

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
FAX (213) 485-5075

Standards Lab No.: 05-00049 -01A to -02A
Date Received: August 3, 2004
Date Reported: August 5, 2004

Bureau of Engineering
Geotechnical Services Division
W.O. # E1700500

To: File Copy

cc: Javad Valleie

SOIL LEACH TEST: Sheldon/Arleta Landfill
CHEMLAB ANALYSIS REPORT

At the request of the Geotechnical Services Division, two soil samples taken from the Sheldon/Arleta Landfill were analyzed on August 4, 2004 for chlorides, sulfates, pH, conductivity and acidity, if applicable.

A 1:3 ratio of gram soil sample to volume water were leached for 24 hours. The 24-hour water leachate were analyzed in accordance with EPA Methods for the Chemical Analysis of Water and Wastes, 1983. Specific methods used are listed in the following table of test results.

TEST RESULTS

Sample ID No.	Sample Date	Test Hole No.	Sample Depth, ft	Analysis of Water Leachate				
				pH	Conductivity umhos/cm	Chlorides ppm	Sulfates ppm	Acidity** mg/L as $CaCO_3$
05-00049 -01A	06-29-04	B-2	2 1/2	8.3	105	3.5	11.8	N/A*
-02A	07-06-04	B-4	5	7.8	161	4.0	15.3	N/A*
Reporting Limit				N/A*	N/A*	0.2	1	1
EPA Method No.				150.1	120.1	300.0	300.0	305.1

* N/A - Not Applicable
** Determined only if pH is less than 7.0

KABEW KASSEW, Lab Manager II
General Services/Standards
KK:ES:es

Recyclable and made from recycled waste.

TO - Tom.
DW

LA DBS
DEPARTMENT OF BUILDING AND SAFETY

City of Los Angeles

SOIL REPORT APPROVAL LIST

LOG#: 45346 DATE: 10/19/2004 SOIL/GEOLOGY FILE - 2

JOB ADDRESS: 12455 Wicks Street DISTRICT OFFICE: VN

TRACT: 14137 COUNTY REF. #: MP 287-36/

BLOCK:

LOT: 5 ARB:

CURRENT REPORT: LA City GED DATED: 8/27/04

CURRENT REPORT: DATED:

OVERSIZED DOCUMENTS X-REF: 2X DATED: 8/27/04 X-REF: DATED:

PREVIOUS REPORT: DATED:

PREVIOUS REPORT: DATED:

PROJECT DESCRIPTION/COMMENTS: Proposed construction of a new concession stand/restroom building along Wicks Street, a restroom building along Sheldon Street, and a new flare station that preferably be located in the northwest corner of the site, but alternatively can be located in the southwest corner of the site. According to the report, the location of the edge of the landfill is recommended to be determined during grading in order to establish the final location of the structures. The proposed buildings are recommended to be located outside the limits of the landfill and underlain by shallow engineered fill over native soils as recommended. Conventional shallow spread foundations founded in engineered fill over the native soils are recommended for structural support. The report recommends existing fill materials below the proposed foundations to be removed and recompacted to reduce structure settlements.

REVIEWED BY (Fred Wong) TELEPHONE (213) 482-0491

REVIEWED BY ( ) TELEPHONE

ROBERT STEINBACH - CHIEF OF GRADING DIVISION

SEISMIC HAZARD INFORMATION

LIQUEFACTION STUDY ZONE?	☐ YES	☒ NO
SEISMIC-INDUCED LANDSLIDE STUDY ZONE?	☐ YES	☒ NO
EXEMPT FROM SEISMIC HAZARD ZONE REQUIREMENTS	☒ YES	☐ NO

The geology/soil engineering report(s) have been reviewed by the Grading Section of the Department and have been found to be acceptable provided the proposed construction complies with the conditions specified in this letter. The approval of the reports does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in parenthesis ( ) refer to Code sections of the 1998 edition of the California Building Code, Information Bulletin (P/BC).

LOG#: 45346

INSTRUCTIONS

- All of the following listed and circled conditions shall apply: **1,2,6~8,11,12,13,18,22,24~27,29,31~33,35~39,& 55~58.**
- One copy of the subject geologic/soil engineering reports and this approval letter shall be attached to the field set of plans and one copy shall be provided to the Department Plan Checker prior to issuance of the permits.

PLANS

(1.) The geologist/soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans include the recommendations contained in their reports.

(2.) All recommendations of the report(s) which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. All conditions of the Department letter(s) dated_____ shall apply, except as superseded herein.

GENERAL BUILDING

4. Buildings adjacent to ascending slopes shall be set back from the toe of the slope a level distance equal to one half the vertical height of the slope, but need not exceed 15 feet. (1806.5.2)

5. Whenever the principal building on a site is added to, altered or repaired in excess of 50 percent of its replacement value, the entire site shall be brought up to the current Code standard. (7005.9)

(6.) The LABC Soil Type underlying the site is S_d_. (Table 16 A-J)

FOOTINGS/SLABS

(7.) Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of 3 feet whichever is greater.

(8.) All footings shall be founded in certified engineered fill, as recommended.

9. The structural engineer shall verify the adequacy of the existing footings for underpinning.

10. Footings adjacent to a descending slope steeper than 3:1 in gradient shall be located a distance of one-third the vertical height of the slope but need not exceed 40 feet measured horizontally from the face of the slope; for in-ground pools the footing setback shall be one-sixth the slope height to a maximum of 20 feet. (1806.5.3)(Figure 18-I-1)

(11) Permanent building footings in close proximity to the buried cut slope of the landfill pit shall be located at a minimum of 3 feet from the rim of the buried landfill cut slope as recommended, in lieu of the standard setback prescribed by the Building Code. (1806.5.6)

(12.) Footings supported on approved compacted fill or expansive soil shall be reinforced with a minimum of four (4) ½-inch diameter (#4) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed bear the top. (1804.4)

(13.) Concrete floor slabs placed on approved compacted fill or expansive soil shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

14. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch-thick fill of coarse aggregate or on a 2-inch sand bed covered moisture barrier membrane. The slabs shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way. (1804.4)

15. Concrete floor slabs placed on uncertified fill shall be designed as structural slabs.

16. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill.

17. If import soils are used, no footings shall be poured until the soil engineer has submitted a compaction report containing in-place shear test data and settlement data to the Department, and obtained approval

(18.) The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch.

19. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored.

GRADING/SLOPES

20. All new fill slopes shall be no steeper than 2:1. (7011.2)

21. All nonconforming street cut slopes shall be trim-graded back to a slope gradient no steeper than____ or retained by a designed retaining wall.

(22) All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557; Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density.

LOG#: 45346

23. For grading involving import or export of more than 1000 cubic yards of earth materials within the *grading hillside area*, approval is required by the Board of Building and Safety. Application for approval of the haul route must be filed with the Grading Section. Processing time for application is approximately 8 weeks to hearing plus 10-day appeal period. (7006.7.4)

24. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Department and the Department of Public Works, for any grading work in excess of 200 cu yd. (7007.1)

DRAINAGE

25. All roof and pad drainage shall be conducted to the street in an acceptable manner; water shall not be dispersed on to descending slopes without specific approval from the Grading Section and the consulting geologist and soil engineer. (7013.10)

TEMPORARY EXCAVATIONS/RETAINING WALLS

26. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety.

27. A supplemental report shall be submitted to the Grading Section containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way or adjacent structures.

28. Prior to the issuance of any permit which authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation. (3301.2.1)

29. Unsurcharged temporary excavations may be cut vertical up to a height of **5** feet. Portions of the excavation above this height shall be trimmed to no steeper than **1-1/2:1** (horizontal to vertical), as recommended.

30. Slot cuts using the A -B -C method, shall be no wider than___ feet, no higher than ___ feet, for proposed subterranean parking structure excavations.

31. Suitable arrangements shall be made with the Department of Public Works for the proposed removal of support and/or retaining of slopes adjoining the public way, as applicable.

32. Retaining walls for level or slopping backfill shall be designed for a minimum equivalent fluid pressure as indicated on Table 2 (Lateral Earth Pressure), Page 32 of the report.

33. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device.

34. The recommended equivalent fluid pressure (EFP) for the proposed retaining wall shall apply from the top of the freeboard to the bottom of the wall footing.

35. All retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Installation of the subdrain system shall be inspected and approved by the soil engineer and the City grading/building inspector.

CONSTRUCTION INSPECTION AND REPORTING

36. Prior to the placing of compacted fill, a representative of the consulting soil engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the City Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed with the Department upon completion of the work. The fill shall be placed under the inspection and approval of the soil engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

37. Prior to the pouring of concrete, a representative of the consulting geologist and soil engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the City Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work.

38. The soil engineer and the geologist shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading.

39. Prior to excavation, an initial inspection shall be called at which time sequence of shoring, protection fences and dust and traffic control will be scheduled.

40. Installation of shoring, underpinning, and/or slot cutting excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector.

ADDITIONAL CONDITIONS

LOG#: 45346

41. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit.

42. A registered deputy grading inspector approved by and responsible to the project soils engineer shall be required to provide continuous inspection for any proposed slot-cutting, underpinning, shoring, tie-back, or drilling and installation of deep foundations.

43. Casing or other approved method of pile/caisson installation shall be used where caving soils are present.

44. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up.

45. Slurry/lean concrete shall not be used in the passive bearing portion of soldier piles.

46. Cantilevered shoring with a level backfill shall be designed for a minimum equivalent fluid pressure of ___pcf, plus any surcharge, as recommended.

47. Braced/anchored shoring up to____ft high, as a minimum shall be designed for a trapezoidal earth pressure having a uniform _____ H psf distributed over the central six-tenths, plus any surcharge and water loading, as recommended.

48. Estimated lateral deflection of the tops of soldier piles under design loads shall be presented in a table on the plans. Soldier pile deflections during construction and excavation shall be monitored under the supervision of the soils engineer.

49. The installation and testing of temporary tie-back anchors shall comply with the recommendations included in the report or the Department standard sheets titled "Requirement for Tie-back Earth Anchors"(RR23835), whatever is more restrictive.

50. Soil behind the soldier pile shoring spaced greater than___ft clear, shall be retained with lagging, as recommended. Lagging which may experience long-term soil contact shall be treated for insects and decay.

51. All temporary shoring shall be removed prior to occupancy unless administrative approval from the Department is obtained to abandon based on detailed recommendations and figures by the soils engineer.

52. Basement/restrained walls shall be designed for a minimum trapezoidal pressure having a uniform ____H psf distributed over the central six-tenths, plus any surcharge/water load, as recommended.

53. Prefabricated drainage composites may be only used in addition to traditionally accepted methods of draining retained earth.

54. Special provisions such as flexible or swing joints shall be made for buried utilities and drain lines to allow for differential vertical displacement.

55. Footings shall be founded entirely in certified compacted fill as recommended.

56. Continuous / isolated footings allowable bearing pressure shall be **(1,500)** psf, for footings with a minimum of **12/18** inches in width and embedded a minimum of **12** inches into **engineered fill** as recommended.

57. Allowable vertical foundation pressure, frictional and lateral soil bearing values shall be limited to a maximum one-third increase when considering earthquake or other temporary forces. (1805)

58. Frictional and lateral resistance of soils may be combined, provided the lateral bearing resistance does not exceed two-thirds of the allowable lateral bearing.

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: February 11, 2014

To: Michael A Shull, Acting General Manager
Department of Recreation and Parks

Attention: David Takata

From: Christopher Johnson, Division Manager
Geotechnical Engineering Group (GEO)

Subject: **SHELDON ARLETA LANDFILL/CESAR CHAVEZ PARK – BACKSTOP PILE FOUNDATION GEOTECHNICAL LETTER**
FILE NO.: 03-053 **W.O.: E1700500**

INTRODUCTION

The purpose of this letter is to confirm the phone discussions starting on August 15, 2013 when Theo Seeley of the Geotechnical Engineering Group (GEO) proposed drilling a series of short borings to determine the limit of the landfill cap and the thickness of the cap where piles would be used to support the two baseball diamond backstops. Now that we have that information, this report provides recommendations for the design of the foundation to support both backstops at the south end of the new Cesar Chavez Park. The approximate location of the two baseball diamonds is shown on the Vicinity Map in Plate 1. Plate 2 shows the layout of the new park and the baseball backstops and they have been circled and labeled.

The entire site was explored in 2003 and 2004 for the design of the landfill cap, and proposed park. The findings of that exploration were presented in our dated August 27, 2004 report. That report was approved by the Department of Building and Safety on October 19, 2004, under Log # 45346. A copy of the approval letter is in Appendix B of this report. The park is now under construction and most of it is located on top of the existing re-graded Sheldon Arleta Landfill Cap. The cap is now completed in accordance with the recommendations in our August 27, 2004 report.

The construction of the park includes the construction of parking lots around the perimeter of the park and ball fields for both soccer and baseball. At the time that the plans were developed for the park, the exact location and loading for the foundations of the backstops were unknown. Now that it is known, GEO is providing this supplemental report for those foundations.

EXPLORATION

GEO requested a drilling program for seven borings to sample the existing soil adjacent to the proposed backstop pile foundation locations. This was necessary to provide the design values for that portion of the Park. The August 27, 2004 geotechnical report did have some general foundation recommendations, but there were no recommendations related specifically to the backstop piles.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

The Geotechnical Engineering Group (GEO) retained the Department of General Services, Standards Division (Standards), to perform drilling and testing services for this specific subsurface investigation. The subsurface investigation included drilling, sampling, and logging seven exploratory borings and performing geotechnical tests on selected soil samples. The boring logs and laboratory results are presented in Standards' Data Report (Lab No. 140-5966), dated January 31, 2014 which is included in Appendix A of this report.

On August 23, 2013 Standards, under the direct supervision of GEO, drilled seven borings as shown on the Test Boring Location Map of the Standards' Data Report in Appendix A. The borings were drilled with a truck-mounted Central Mine Equipment Model 75HT drill rig equipped with 6-inch diameter hollow-stem augers.

To distinguish these Borings from all of the other previous exploration, the designation of "BB" was chosen for the Baseball Borings. As can be seen on Plate 3, the field to the west is smaller and may be constructed first. Borings BB-1 through BB-5 were drilled to a depth of 20 feet below the ground surface (bgs). All of these were drilled through the landfill cap and did encounter the top of the landfill trash. Borings BB-6 and BB-7 were drilled to only 15 feet bgs due to caving of the hole at that depth. Typically, caving is an indication of problems. However, the reason for the caving is they encountered the dry sandy native alluvium.

Relatively undisturbed geotechnical samples were obtained from all of the borings by driving a California-type 3 ½ " outside diameter by 3" inside diameter Split Spoon sampler lined with 2 7/8" inside diameter by 1" high brass rings at depths of 5 feet, 10 feet and 15 feet. The samplers were successively driven into the soil with a 300-pound weight using an automatic trip hammer falling approximately 30 inches. A composite bag or bulk sample was also obtained from the upper 2.5 feet of the boring.

Each collected sample was inspected and described in general conformance with the Unified Soil Classification System (USCS). All samples were sealed and packaged for transportation to Standards' laboratory. After completion of drilling and sampling, the borings were backfilled with drill cuttings and patched at the ground surface with concrete. The detailed log of the boring is included in the respective Standards' Data Report in Appendix A. The soils are Clayey Silt with some Sand. The fill is moist and firm. GEO has reviewed the report presented in Appendix A, concurs with and accepts responsibility for the use of their contents.

The Standards report does include some additional tests from samples that were taken in the swales in the north end of the park. These samples and their tests relate to a different phase of the project and are not applicable to the proposed baseball backstop.

LABORATORY TESTING

The following geotechnical tests were performed on selected samples:

- In-place Dry Density and Field Moisture (ASTM D2937)
- Direct Shear (ASTM D3080)
- Grain Size Analysis (ASTM D422)
- Liquid Limit (ASTM D4318 – one point method)

- Plasticity Index (ASTM D4318)

Laboratory test results are presented in the enclosed Report of Subsurface Investigation in Appendix A. GEO has reviewed the report, concurs with and accepts responsibility for the use of their contents. GEO does take one exception the Direct Shear Test for BB-6 at 10 feet: the soil description should be the same as the boring log "Gray poorly graded fine-medium sand with silt and gravel; moist and dense; native alluvium." The shear strength for that sample does match that description.

Soil parameters used for design purposes from the testing data are summarized in Table 1, Soil Design Parameters.

Table 1 – Soil Design Parameters

Material	Dry Unit Weight (pcf)	Cohesion (psf)	Friction (°)
On-Site Native Soil	125	100	40
Landfill Cap silty clayey sand	125	200	36

CONCLUSIONS AND RECOMMENDATIONS

Pile Design Parameters

The minimum diameter of the piles is 18 inches and the minimum depth of pile is 6.5 feet below lowest adjacent grade. Piles shall not be drilled into the trash landfill. In the event that pile drilling encounters the landfill, the hole shall be filled with slurry up to a point 12 inches above the top of the landfill. If that occurs and it results in a pile shorter than what is given on the plan, then all work in that area shall be stopped until the design engineer has developed a revised plan for that pile location.

Pile passive pressure in soil shall be 300 pounds per cubic foot (pcf). This design includes a Factor of Safety on the soil parameters only. GEO recommends that the pile be tied in two directions due to the variation in wind load.

Based on our understanding of the proposed construction and the characteristics of the on-site soils, Cast-In-Drilled-Hole (CIDH) piles will be used for the support of the proposed baseball backstop fences. In the event that other structures will be built, GEO will need to be contacted prior to using the recommendations provided herein. CIDH piles shall be tied in two directions with grade beams or slabs-on-grade designed to meet the requirements of the Los Angeles Building Code. Allowable compression capacities of 18-inch diameter piles for total dead and frequently applied live loads for 6 foot deep piles is 3000 pounds per pile. This vertical capacity assumed a factor of safety of at least two and the entire capacity is developed by side friction in the compacted land fill cap or natural soils. The upward pile capacities may be considered to be equal to one-half of the downward capacity plus the weight of the pile. When considering wind or seismic loads, the capacities may be increased by one-third. The pile's downward capacity shall be reduced due to group action if the center-to-center pile spacing is less than

1 0 6 1 2 2 3 2 0 1 3 0 2 9 7

2.5 times the pile's diameter. Based upon the plans given to GEO to date, it is our understanding that all piles will be spaced more than 2.5 times their diameter. However, if there is a change in plans, GEO will calculate this reduction for piles upon request. Under no circumstance shall the piles be spaced closer than two diameters on center.

Additional lateral load resistance may be provided by passive soil pressures acting against the vertical portions of grade beams, provided the elements are poured neatly against compacted fill. We recommend that a passive equivalent fluid pressure of 120 pcf be used in design. This passive pressure can be assumed to act starting at the top of the adjacent grade.

Settlement

The initial total static settlement of the proposed foundations, designed and constructed in accordance with the recommendations presented herein, should not exceed ¼-inch. Differential settlements should not exceed ¼ inch between the adjacent foundations. The majority of this settlement is expected to occur during construction and as the loads are applied. These settlements do not include or account for the on-going compression of the landfill. Structures located over the landfill will be subject to irregular settlement. This will result in greater maintenance than normal where a site is underlain by natural formations. It is GEO's understanding that the Department of Recreation and Parks was aware of this more than 10 years ago when the project was in its initial planning stage.

Construction

Based on the expected subsurface soils, the risk of caving in the borings is expected to be moderate. Before the start of drilling, the contractor shall submit and have ready a means of controlling caving soils using casing, a drilling fluid, or other approved means. Based on the results of our subsurface investigation, the potential to encounter groundwater in the borings is considered nil and the potential to encounter cobbles/boulders is considered to be very low. Please be advised that the geotechnical investigation is not intended to be an exhaustive summary of subsurface conditions and variations may be encountered during construction. The contractor should be prepared to respond to various conditions during construction.

All aspects of CIDH pile installation shall comply with the acceptance criteria for cast-in-drilled-hole piles presented in the following, itemized paragraphs:

1. Pile installation shall be performed under the continuous observation of the geotechnical engineer of record to confirm that the recommended soils are penetrated, and that pile installation has been performed as recommended herein. At least three (3) working days advance notice is required to facilitate scheduling. The Contractor shall provide necessary facilities at his expense to accommodate pile observations.

2. The pile excavation shall be plumb to a tolerance of not more than 4 percent.

3. Where caving soils are encountered, casing or other methods approved by the geotechnical engineer of record shall be used to support the sides of the pile excavation. The inside diameter of casing shall be at least as large as the diameter of the pile as indicated on the plans. Drilling shall be accomplished within the casing. If drilling fluids

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

are proposed to support the sides of the excavation, the fluid data and means of application will be submitted and approved by GEO before usage.

4. At the completion of drilling, secure covers shall be placed over the pile excavation. Concrete placement shall be completed within eight hours after completion of drilling. Placed concrete shall have a slump of 6 inches, with a tolerance of 1 inch.

5. Concrete placed in dry holes shall not be allowed to fall freely more than 5 feet. Concrete pumps, tremies or other such devices shall be used to comply with these requirements.

6. Concrete, where necessary, shall always be placed under water or drilling fluid using concrete pumps and hoses, or equal, extending to the bottom of the pile excavation. A head of at least 4 feet of concrete shall always be maintained over the end of the concrete pump pipe so that water and disturbed soils are forced from the excavation.

7. Any temporary casing shall be raised slowly as the pile excavation is filled with concrete, provided that the bottom of the casing is always a minimum of 3 feet below the level of the concrete.

8. Concrete placement shall continue until suitable concrete extends to the top of the pile excavation. The tremie or concrete pump pipe shall be slowly raised as the pile excavation is filled with concrete, provided that the bottom of the pipe is never more than 5 feet above the level of the concrete.

9. Piles spaced closer than 2.5 pile diameters, center-to-center, shall be drilled and concreted alternately, allowing at least 12 hours after concrete placement in one pile before drilling of an adjacent pile.

Plan Review

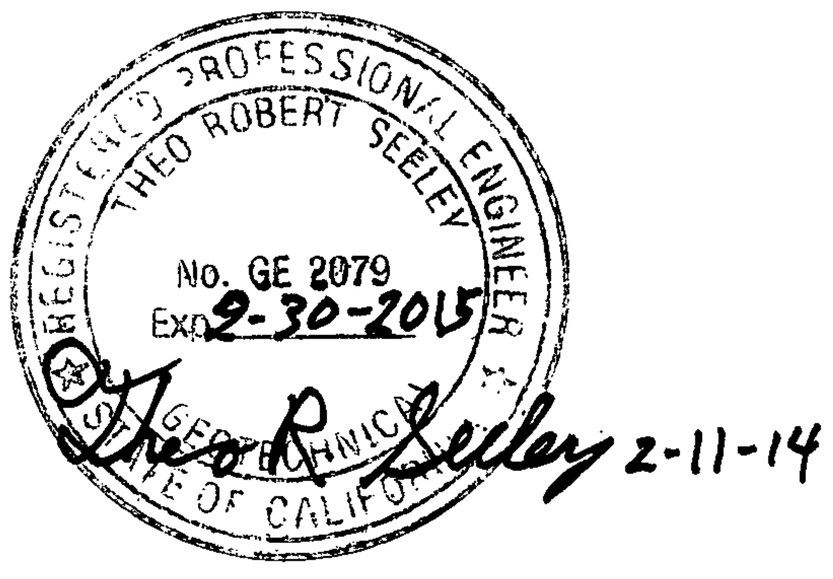
The final grading and foundation plans and specifications should implement the recommendations presented in this report and should be reviewed by GEO. GEO will need to review, approve and stamp the plans prior to having them submitted to Building and Safety for the permit application process.

1 0 8 1 2 2 3 2 0 1 5 0 2 9 7 7

Additional Services

The construction process is an integral design component with respect to the geotechnical aspects of a project. Proper geotechnical observation and testing during construction is imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, the Geotechnical Engineer of Record shall be involved during the construction of the proposed development to observe compliance with the design concepts and geotechnical recommendations.

If there are any questions, please contact Theo Seeley at (213) 847-0534.



Theo R. Seeley, GE 2079
Geotechnical Engineer II

CFJ/TRS/et

Attachments:

PLATES

1. Vicinity Map
2. Site Location Map
3. Boring Location Map
4. Baseball Field Backstop Pile Foundation Plan/Profile

APPENDICES

Appendix A – Department of General Services, Standards Division, Subsurface Investigation Report (Lab No. 140-5966), dated January 31, 2014
Appendix B – Building and Safety Documents

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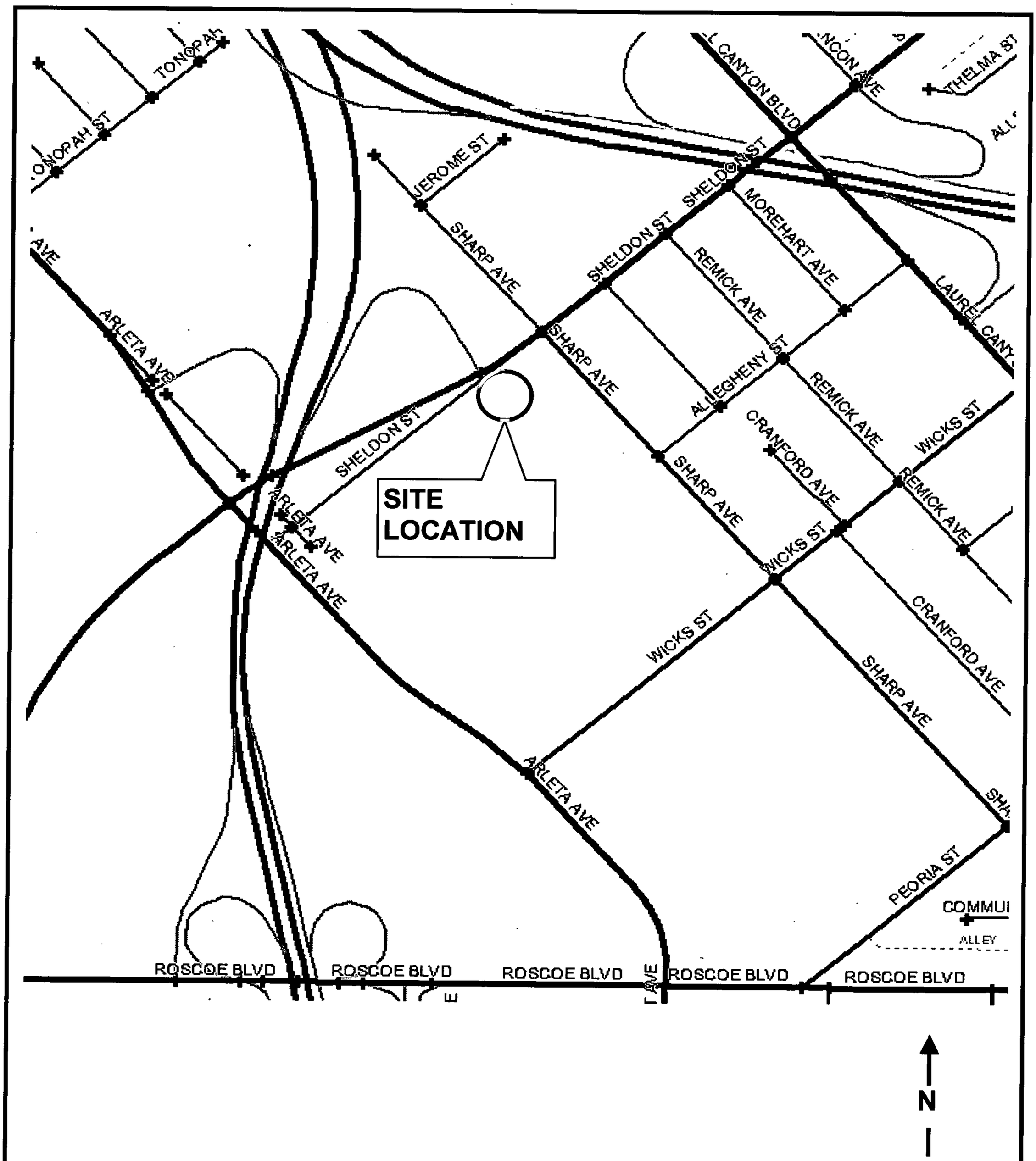


VICINITY MAP

Not To Scale

CESAR CHAVEZ PARK **SHELDON ARLETA LANDFILL** **12600 W. SHELDON STREET**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING GROUP (GEO) FIELD INVESTIGATION NO.: 03-053 DATE: JANUARY 28, 2014	PLATE 1

Gate

SHELDON STREET

ARLETA AVENUE

SHARP AVENUE

WICKS STREET

BASEBALL FIELD BACKSTOPS

INSTALL IRRIGATION MAINLINE UP TO GATE VALVE AT THIS LOCATION DURING PHASE IIIA CONSTRUCTION

NOTE
IN PHASE IIIA, INSTALL CONTROL WIRE CONDUIT ALONG ENTIRE LENGTH OF INSTALLED MAINLINE WITH A PULL BOX AT 500' O.C. AND AT 90 DEGREE TURNS FOR FUTURE IRRIGATION DEMANDS

CONTROLLER "C" OPERATING STATIONS C-1 THRU C-28 PHASE IIIA

CONTROLLER "D" OPERATING STATIONS D-1 THRU D-31 PHASE IIIA

GATE VALVE, STUB OUT 2 CONTROL WIRES NO.1 COMMON FOR FUTURE STATIONS PHASE IIIB

CONTROLLER "E" OPERATING STATIONS E-1 THRU E-14 PHASE IIB

CONTROLLER "F" OPERATING STATIONS F-1 THRU F-24 PHASE IIB

CONTROLLER "G" OPERATING STATIONS G-1 THRU G-27 PHASE IIB

CONTROLLER "H" OPERATING STATIONS H-1 THRU H-22 PHASE IIB

INSTALL PHASE IIB MAINLINE STUB UP TO GATE VALVE DURING PHASE IIIA CONSTRUCTION

INSTALL PHASE IIB MAINLINE UP TO GATE VALVE AT T-48 LOCATION DURING PHASE IIIA CONSTRUCTION

POINT OF CONTACT (TO BE INSTALLED IN PHASE IIIA)

INSTALL ALL IRRIGATION EQUIPMENT AND PIPING NECESSARY FOR PHASE IIIA IRRIGATION TO BE FULLY OPPERATIONAL. THIS WILL INCLUDE EQUIPMENT LOCATED BEYOND THE EXTENTS OF THE PHASE IIIA AND PHASE IIIB SEPARATION

CONTROLLER "H" OPERATING STATIONS H-1 THRU H-31 PHASE IIB

CONTROLLER "B" OPERATING STATIONS B-1 THRU B-37 PHASE IIB

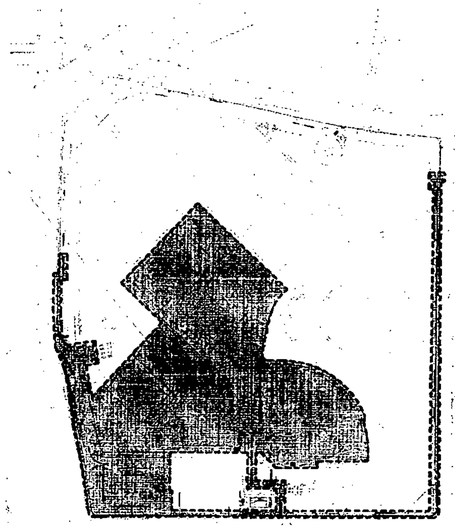
INSTALL PHASE IIB MAINLINE STUB UP TO GATE VALVE DURING PHASE IIIA CONSTRUCTION

INSTALL PHASE IIB MAINLINE STUB UP TO GATE VALVE DURING PHASE IIIA CONSTRUCTION

INSTALL PHASE IIB MAINLINE STUB UP TO GATE VALVE DURING PHASE IIIA CONSTRUCTION

INSTALL PHASE IIB MAINLINE STUB UP TO GATE VALVE DURING PHASE IIIA CONSTRUCTION

NOTE
IN PHASE IIIA, INSTALL CONTROL WIRE CONDUIT ALONG ENTIRE LENGTH OF INSTALLED MAINLINE WITH A PULL BOX AT 500' O.C. AND AT 90 DEGREE TURNS FOR FUTURE IRRIGATION DEMANDS



Phase IIIA Scope of Irrigation Improvements
NTS

NOTE:
CONTRACTOR TO INSTALL ALL IRRIGATION EQUIPMENT AND PIPE WITHIN PHASE IIIA LIMIT OF WORK AND THROUGH PHASE IIIB AS NECESSARY.

INSTALL ALL IRRIGATION EQUIPMENT AND PIPING NECESSARY FOR PHASE IIIA IRRIGATION TO BE FULLY OPPERATIONAL. THIS WILL INCLUDE EQUIPMENT LOCATED BEYOND THE EXTENTS OF THE PHASE IIIA AND PHASE IIIB SEPARATION.

PHASE IIIB LATERAL FEEDS TO BE CAPPED AT LIMIT LINE. STUB OUT IN 6" FLUSH BOX. IDENTIFY LATERAL STUB WITH TAG.

NORTH 0 7.5 15 30 60 FEET

KEY MAP



EPTDESIGN
landscape architecture | urban design | planning

Sheldon Arleta Landfill/Cesar Chavez Park
12455 Wicks Street
Site Location Map

December 20, 2013
File No.: 03-053
W.O. No.: E1700500

Plate 2

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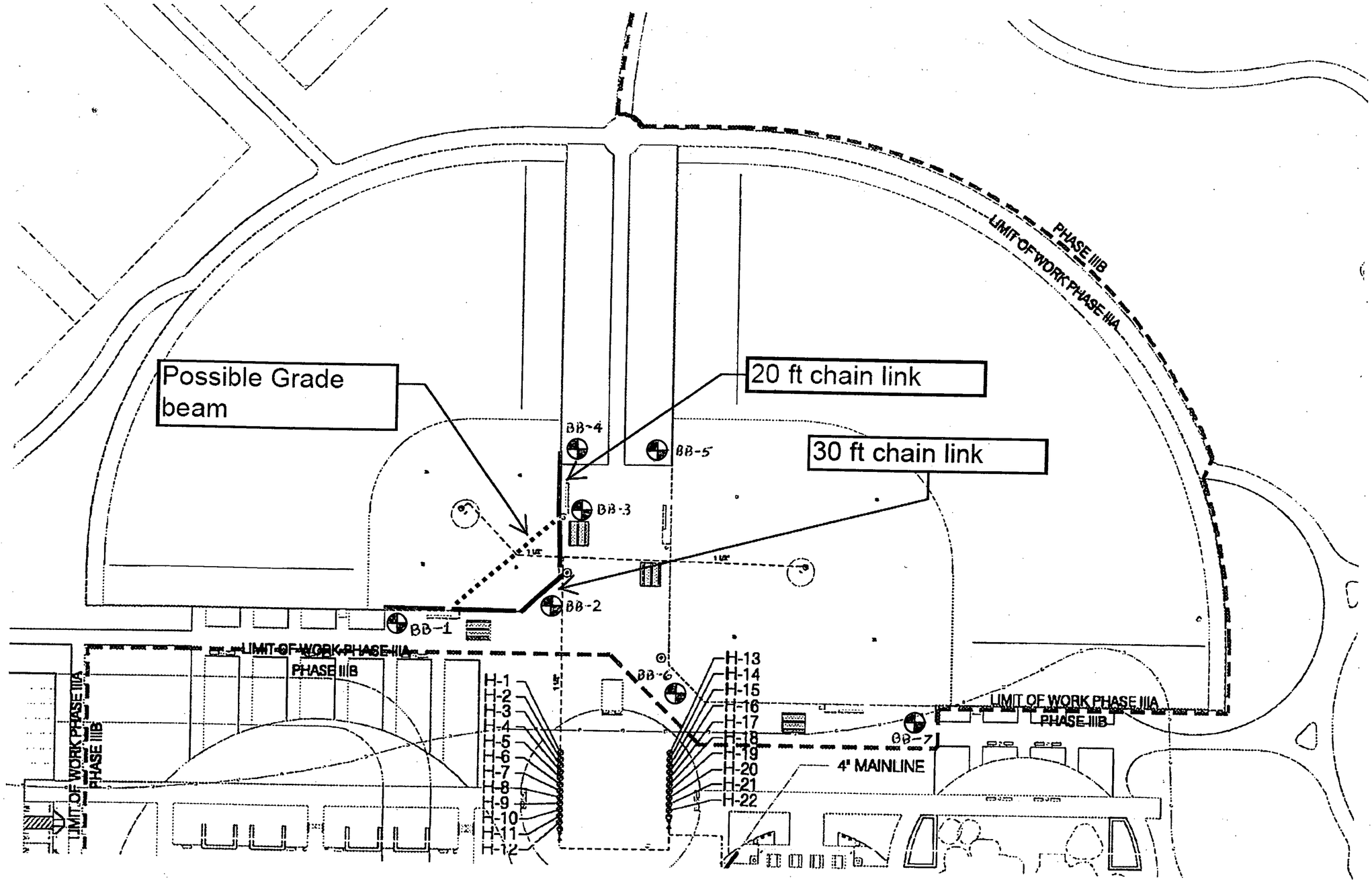

Sheldon Arleta Landfill/Cesar Chavez Park **12455 Wicks Street** **Boring Location Map**	**December 20, 2013** **File No.: 03-053** **W.O. No.: E1700500**	**Plate 3**

Not To Scale

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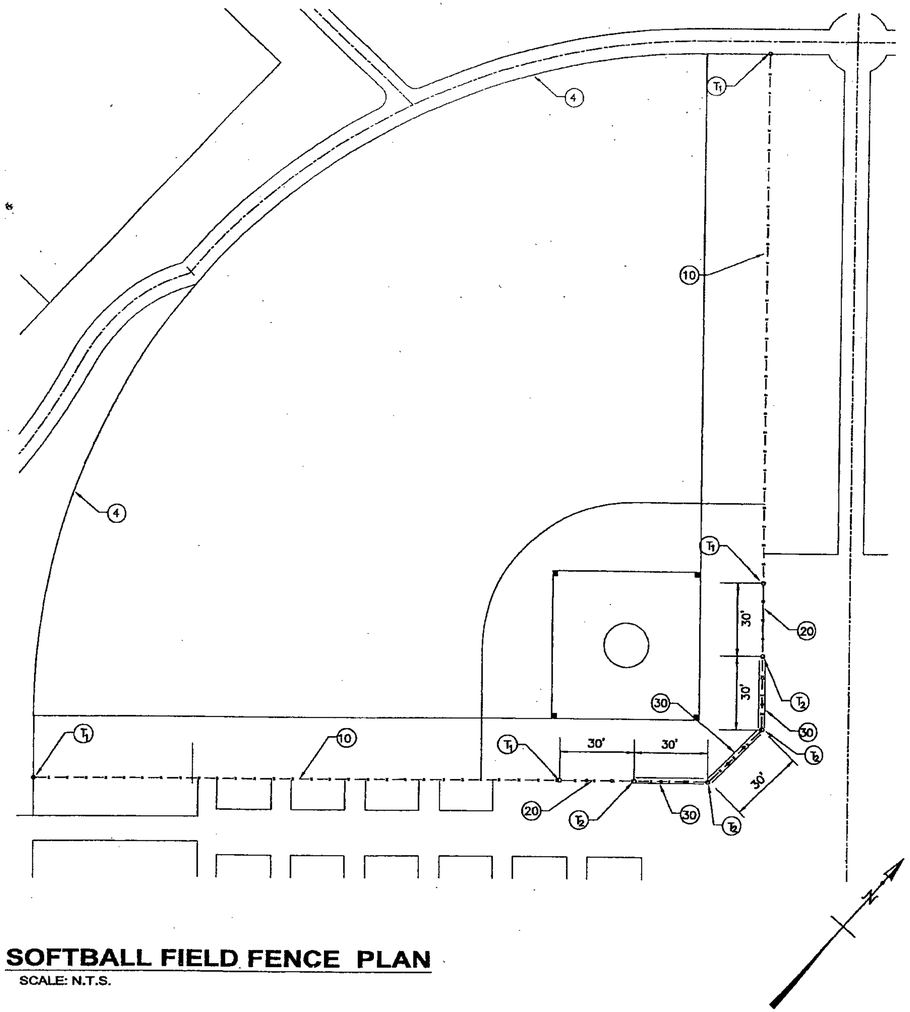


SOFTBALL FIELD FENCE PLAN

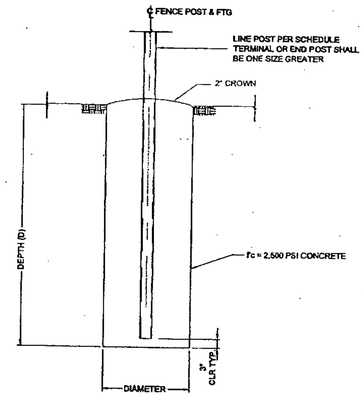
SCALE: N.T.S.

LEGEND

(4)	4 FT HIGH FENCE POST & FOOTING PER DETAIL J9.
(10)	10 FT HIGH FENCE POST & FOOTING PER DETAIL J9.
(20)	20 FT HIGH FENCE POST & FOOTING PER DETAIL J9.
(30)	30 FT HIGH FENCE & FOOTING PER DETAIL DETAIL J9 AND A9.
(T1)	TERMINAL OR CORNER POST SHALL BE ONE SIZE GREATER. THAN LINE POST PER SCHEDULE J9.
	LOCATION OF GRADE BEAM PER DETAIL A9.

NOTICE TO CONTRACTORS:

1. THE PLAN AND STRUCTURAL DETAILS APPLY TO THE FENCE LINE POSTS, CORNER/TERMINAL POST, AND THE FOOTINGS ONLY. THE DESIGN AND CONSTRUCTION OF THE RAIL, BRACES, TENSION WIRE, GATES, COATING REQUIREMENTS, AND ANY OTHER CHAIN LINK FENCE COMPONENT NOT MENTIONED, SHALL BE IN ACCORDANCE WITH ASTM F2631 AND ALL APPLICABLE STANDARD.



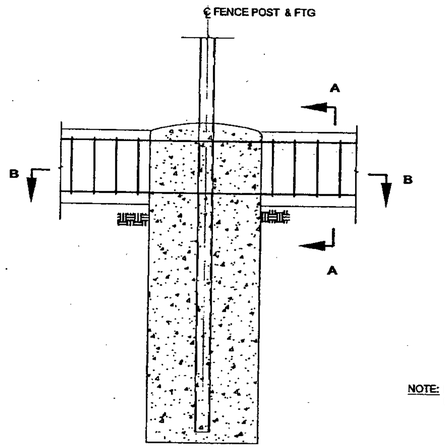
LINE POST SCHEDULE

TYPE	FENCE POLE*	TERMINAL/ CORNER POST	FOOTING DIAMETER (IN)	FOOTING D (FT)	SPACING
(4)	2-3/8"Ø O.D.	-	12" Ø	2.5	10'-0" O.C. MAX
(10)	4-1/2"Ø O.D.	(T1) 5-9/16"Ø O.D.	24" Ø	4	10'-0" O.C. MAX
(20)	4-1/2"Ø O.D.	(T1) 5-9/16"Ø O.D.	24" Ø	6	10'-0" O.C. MAX
(30)	6-5/8"Ø O.D.	(T2) 8-5/8"Ø O.D.	30" Ø	6	10'-0" O.C. MAX

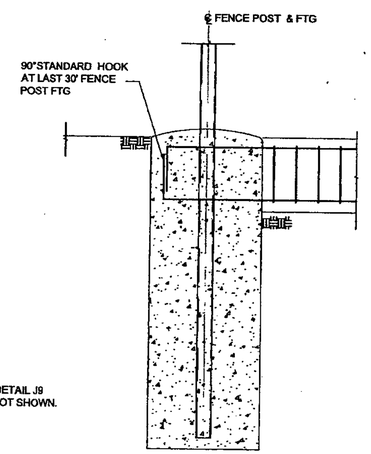
NOTES:
1. *FENCE POST SHALL BE ASTM F1043 SCEDULE 40 GALVANIZED STEEL PIPE, ASTM 1083-06 REGULAR GRADE Fy = 36 ksi
2. CHAIN LINK FENCE SHALL BE 2" MESH 9 GA CONFIGURATION. ASTM 1083-06 REGULAR GRADE Fy = 30 ksi

J9 — FENCE POST AND FOOTING SCHEDULE

SCALE: NTS



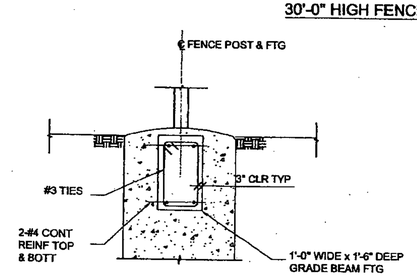
30' INTERIOR FENCE POST & GRADE BM FTG



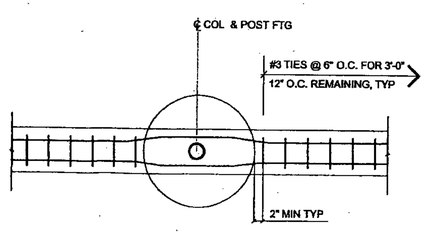
NOTE: REFER TO DETAIL J9 FOR INFO NOT SHOWN.

30' TERMINAL END & GRADE BM FTG

30'-0" HIGH FENCE POST & GRADE BEAM FTG



SECTION A-A



PLAN B-B

A9 — 30 FT FENCE POST AND FOOTING DETAIL W/ GRADE BEAM

SCALE: NTS

Sheldon Arleta Landfill/Cesar Chavez Park 12455 Wicks Street Baseball Field Backstop Pile Foundation Plan/Profile	December 20, 2013 File No.: 03-053 W.O. No.: E1700500
	Plate 4

APPENDICES

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

APPENDIX A

(Department of General Services, Standards Division, Subsurface Investigation Report (Lab No. 140-5966), dated January 31, 2014)

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

GEOTECHNICAL DIVISION
ENGINEERING

2014 FEB -6 AM 11:01

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

SHELDON – ARLETA PARK
CESAR CHAVEZ SPORTS COMPLEX

LAB NO. 140-5966

W.O NO. E1700618
JANUARY 2014

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
fax (213) 485-5075

Lab. No. 140-5966

Received: 08-15-13
NTP: 08-16-13
Reported: 01-31-14

TO: Deborah J. Weintraub
Interim City Engineer

Attention: Christopher Johnson

Sheldon – Arleta Park
Cesar Chavez Sports Complex

W.O. No. E1700618

Report of
SUBSURFACE INVESTIGATION

Transmitted are the results of subsurface investigation performed by Standards on the above-named project as requested by the Geotechnical Engineering Group (GEO) of the Bureau of Engineering. The logs of the test borings, the Unified Soil Classification and the results of the laboratory tests requested by the Engineer are parts of this report. The descriptions reported on the "Log of Test Boring" sheets are based on field identification procedures, examination of the samples in the laboratory and soil classification tests. The soil classification is based on the attached Unified Soils Classification System.

Seven test borings were drilled on this project with a truck-mounted Central Mine Equipment Model-75HT drill rig using 6-inch diameter conventional flight augers. "Undisturbed" samples were obtained from the test borings at depths indicated on the log sheets with a 3½-inch outside diameter (O.D.) by 3-inch inside diameter (I.D.) Split Spoon sampler lined with 2⅞-inch inside diameter (I.D.) by 1-inch high brass tubes. The sampler was driven into the soil with the weight of a 300-pound automatic trip hammer falling approximately 30 inches.

The following tests were performed on samples from the test borings:

In-place Dry Density and Field Moisture (ASTM D2937)

Direct Shear (ASTM D3080)

Grain Size Analysis/Hydrometer (ASTM D422)

Liquid Limit (ASTM D4318 – one point method)

Plasticity Index (ASTM D4318)

Another six samples of soil from the drainage swales at the north end of the Sheldon A were also dropped off by Theo Seeley for sieve analysis and hydrometer testing only.

Whenever possible, the in-place dry density and field moisture content were determined from the total undisturbed sample before being prepared for other laboratory tests. These are reported to the nearest 0.1 pound per cubic foot (nearest 1 pound per cubic foot on the log sheets) and 0.1 percent respectively.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

Sheldon-Arleta Park
Cesar Chavez Sports
Complex
W.O. No.: E1700618

Each direct shear test was performed on 2⅞-inch diameter by 1-inch high undisturbed or remolded soil specimens that were soaked for at least 24 hours before being tested. During soaking the specimens were confined between two perforated brass plates to prevent swelling. The specimens were tested under various normal loads, with a different specimen being used for each normal load, while submerged in water. The rate of shearing is listed on the data sheet. Peak shear load values (represented by solid symbols) and ultimate shear load values at 0.250-inch displacement of the sheared specimens (represented by symbols which are not solid) are reported.

Geotechnical Engineering Group gave the Notice to Proceed with the subsurface investigation to Standards on 08-15-13. Theo Seeley of your Bureau was notified at least 48 hours prior to the drilling and sampling operations. A boring location map is included in this report.

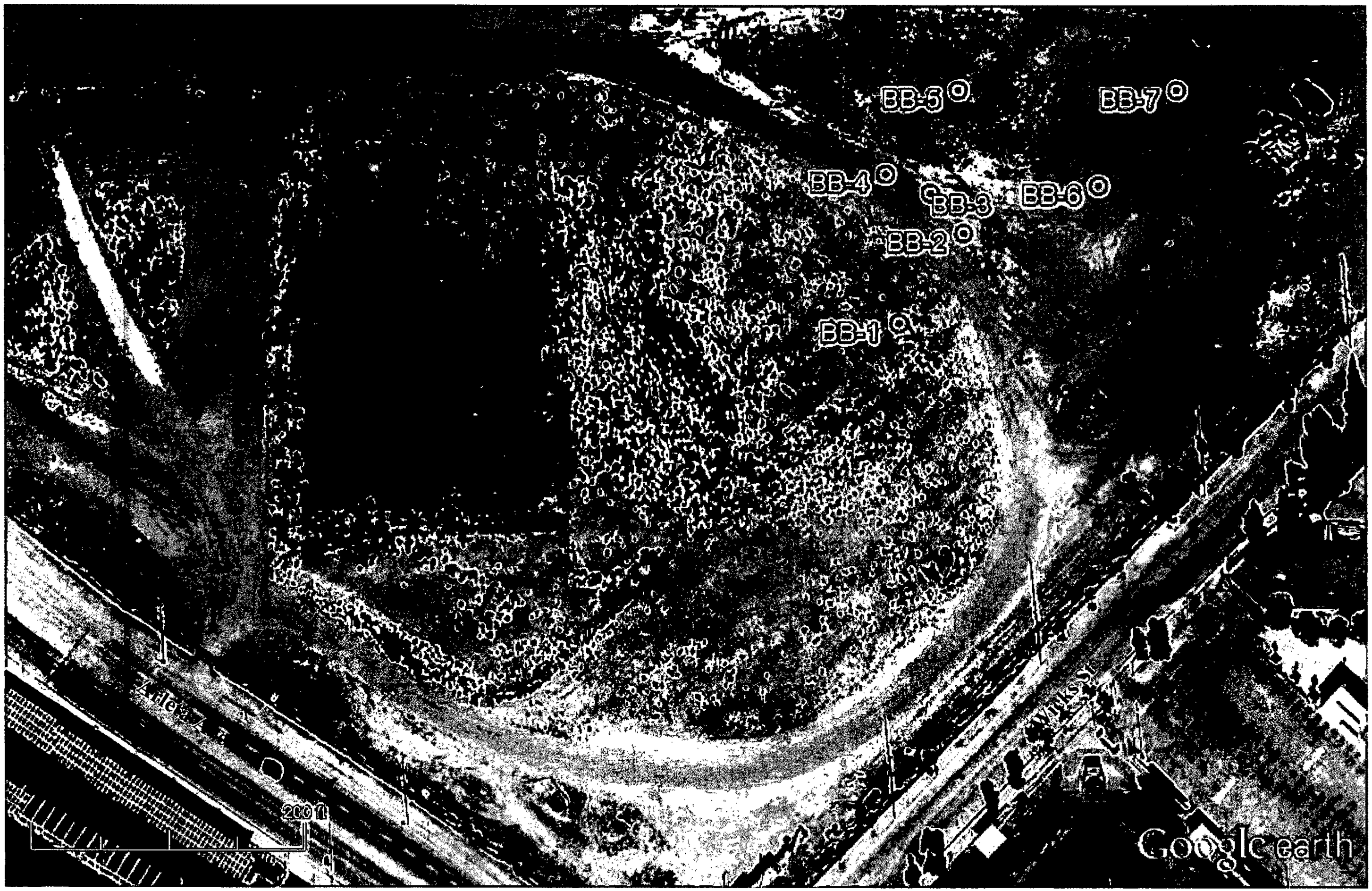
All soil samples for the above-named project that were delivered to the Standard Foundation Laboratory are presently being stored. These samples will be discarded 45 days after the date of this report unless a specific written request to retain the samples for additional testing or for a longer storage period is submitted by your Bureau.

RAY H. SOLOMON, Director
General Services/Standards

REGISTERED PROFESSIONAL ENGINEER
JAVAD VALLEIE
No. 041200
Exp. 6/31/15
CIVIL
STATE OF CALIFORNIA

RHS:JV:m

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7



Legend:

⊙ = Test Boring Location

Test Hole No., Location
BB-1, 526' NE/o NECF Arleta Av & 257' NW/o NWCF Wicks St
BB-2, 617' NE/o NECF Arleta Av & 271' NW/o NWCF Wicks St
BB-3, 629' NE/o NECF Arleta Av & 312' NW/o NWCF Wicks St
BB-4, 630' NE/o NECF Arleta Av & 346' NW/o NWCF Wicks St
BB-5, 701' NE/o NECF Arleta Av & 350' NW/o NWCF Wicks St
BB-6, 705' NE/o NECF.Arleta Av & 225' NW/o NWCF Wicks St
BB-7, 807' NE/o NECF Arleta Av & 230' NW/o NWCF Wicks St

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

TEST BORING
LOCATION MAP
& AERIAL PHOTO

PROJECT TITLE: Sheldon - Arleta Park, Cesar Chavez Sports Complex

W.O. NO. E1700618

LAB. NO. 140-5966	Checked By: JV/KSN
DATE: 11-7-13	Sheet 1 of 1

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-1 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 526' NE/o NECF Arleta Av & 257' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		SC	Brown clayey sand; moist and firm; landfill cap.		
5	11/6 14/6			9.0	129
10	7/6 5/6		Encountered a 2' silty sand lense at 9' depth. Soil color changed to dark gray at 11' depth.	8.2	114
15			Encountered landfill debris (trash) at 14' depth.		
20			---		
25			No free water.		
30			---		
35			Test Boring Location Coordinates: 34° 13' 32.60" North 118° 24' 23.36" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-2 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 617' NE/o NECF Arleta Av & 271' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0 5 10 15 20 25 30 35	7/6 8/6	SC	Brown silty clay/clayeysilt with some sand; moist and firm; landfill cap. Soil color changed to dark gray at 7' depth. Encountered landfill depbris (trash) at 9'depth.	11.9	123
			--- No free water. --- Test Boring Location Coordinates: 34° 13' 33.27" North 118° 24' 22.70" West ---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-3 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 629' NE/o NECF Arleta Av & 312' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0 5 10 15 20 25 30 35	6/6 8/6 7/6 7/6	SC	Brown clayey sand; moist and firm; landfill cap.	11.3	125
			Soil color changed to dark gray at 7' depth.	8.5	118
			Encountered landfill depbris (trash) at 14'depth.		

			No free water.		

			Test Boring Location Coordinates: 34° 13' 32.60" North 118° 24' 22.97" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-4 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 630' NE/o NECF Arleta Av & 346' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		CL-ML	Brown silty clay/clayey silt with some sand; moist and firm; landfill cap.		
5	8/6 9/6			13.1	119
10	6/6 6/6		Soil color changed to dark gray at 9' depth, with decreasing density and a moderate organic odor.	14.5	110
15	4/6 3/6			13.9	109
20			Encountered landfill depbris (trash) at 17'depth.		
25			---		
30			No free water.		
35			---		
			Test Boring Location Coordinates: 34° 13' 33.77" North 118° 24' 23.37" West		
			---		

1 0 8 1 2 2 3 2 0 1 5 8 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-5 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 701' NE/o NECF Arleta Av & 350' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		CL-ML	Brown silty clay/clayey silt with some sand; moist and firm; landfill cap.		
5	7/6 9/6			11.0	125
10			Encountered landfill depbris (trash) at 9'depth.		
15					
20			---		
25			No free water.		
30			---		
35			Test Boring Location Coordinates: 34° 13' 34.41" North 118° 24' 22.63" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 8 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-6 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 705' NE/o NECF Arleta Av & 225' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		SM	Brown silty fine-medium sand with a trace of gravel; moist and dense.		
5	9/6 15/6			7.5	125
10	11/6 12/6	SP-SM	Gray poorly graded fine-medium sand with some silt and gravel; moist and dense; native alluvium.	3.6	116
15			Boring caved-in 5' at 15' depth; boring terminated per engineer.		
20			---		
25			No free water.		
30			---		
35			Test Boring Location Coordinates: 34° 13' 33.59" North 118° 24' 21.41" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-7 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 807' NE/o NECF Arleta Av & 230' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		CL-ML	Brown silty clay/clayey silt with some sand and gravel; moist and firm.		
5	8/6 10/6			11.2	122
10	8/6 10/6	SP-SM	Gray poorly graded fine-medium sand with some silt and gravel; moist and dense; native alluvium.	1.5	122
15			Boring caved-in 5' at 15' depth; boring terminated per engineer. --- No free water. --- Test Boring Location Coordinates: 34° 13' 34.32" North 118° 24' 20.59" West ---		
20					
25					
30					
35					

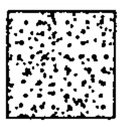
1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

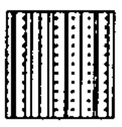
KEY TO SYMBOLS

Symbol Description

Strata symbols



Clayey sands, sand-clay mixtures



Silty clays/clayey silts with fine sand and low to medium plasticity



Silty sands, sand-silt mixtures



Poorly graded sand with silt.

Soil Samplers



Split Spoon

Notes:

1. Seven exploratory borings were drilled on 8/23/13 with a CME-75HT drill rig using 6" diameter conventional flight augers.

2. Geotechnical Engineer was present during the drilling.

3. Boring locations were provided by Geotechnical Engineering Gproup and verified by Standards.

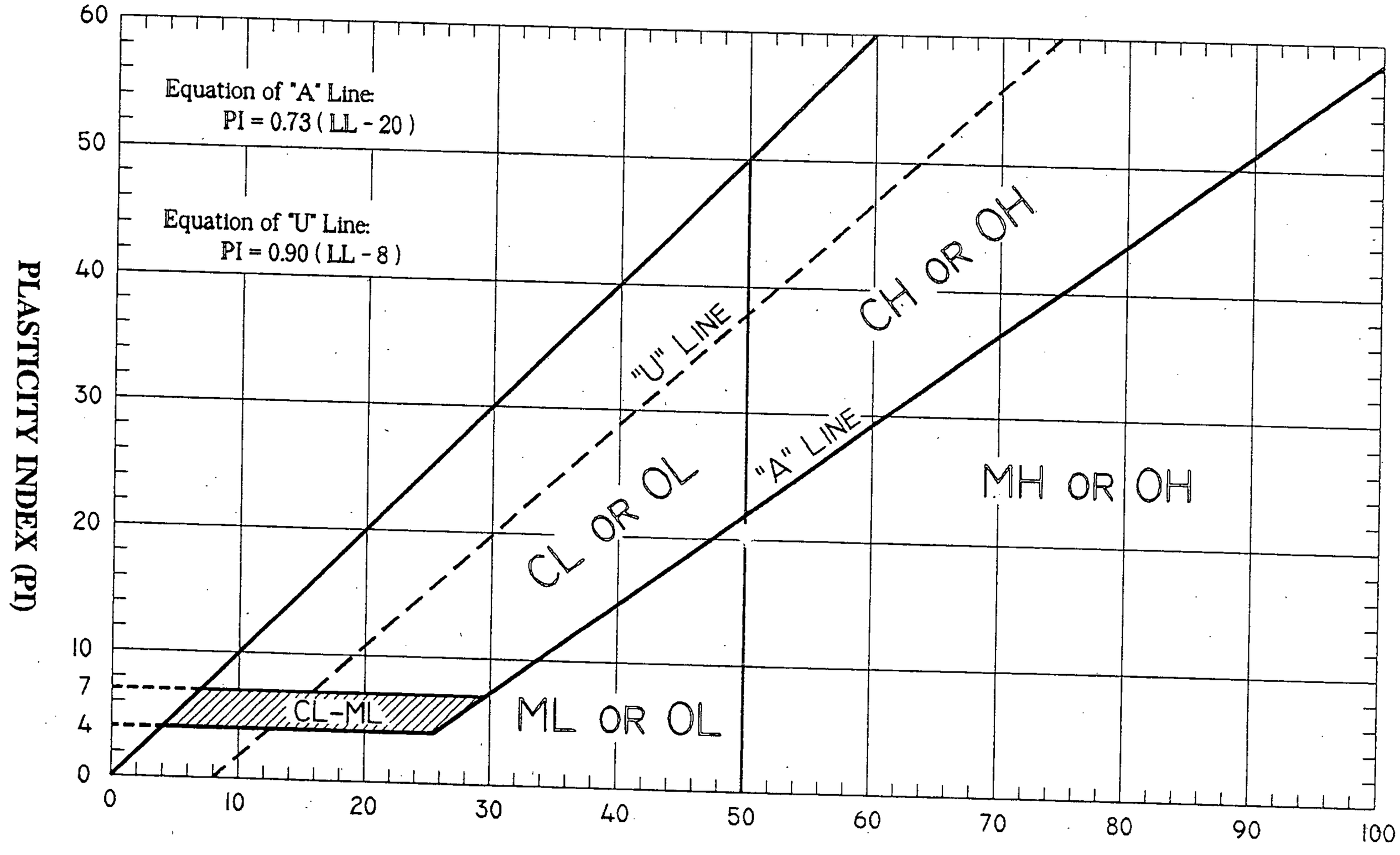
4. Abbreviations used on logs:

N/o =	north of	NCF =	north curb face	NE =	northeast
S/o =	south of	SCF =	south curb face	NW =	northwest
E/o =	east of	ECF =	east curb face	SE =	southeast
W/o =	west of	WCF =	west curb face	SW =	southwest
CL =	center line			PL =	property line
AC =	asphalt concrete			PCC =	Portland cement concrete
OVA =	organic vapor analyzer			LEL =	lower explosive limit
PPM =	parts per million			HT =	high torque

5. The stratification lines indicated on the boring maps and profiles represent the approximate boundary between material types and the transition may be gradual.

6. The materials, boundaries, and conditions have been established only at the boring locations, and are not necessarily representative of subsurface conditions elsewhere across the site.

CLASSIFICATION OF FINE-GRAINED SOILS *



* Reference:
U.S. Army Corps of Engineers

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES CA 90031
(213) 485-2242

10612232015029 77

UNIFIED SOIL CLASSIFICATION SYSTEM *

MAJOR DIVISIONS			GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No.200 sieve size)	GRAVELS (More than 50 % of coarse fraction is LARGER than the No.4 sieve size)	CLEAN GRAVELS (Little or no fines)		GW	Well graded gravels, gravel-sand mixtures, little or no fines.
				GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)		GM	Silt gravels, gravel-sand-silt mixtures.
				GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No.4 sieve size)	CLEAN SANDS (Little or no fines)		SW	Well graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)		SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No.200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possesssing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

No.200 No.40 No.10 No.4 3/4 in. 3 in. 12 in.

U. S. STANDARD SIEVE SIZE

1 0 6*1 Reference 3 2 0 1 5 0 2 9 7 7

The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-367, Vol. I, March 1963. (Revised April, 1960)

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES CA 90031
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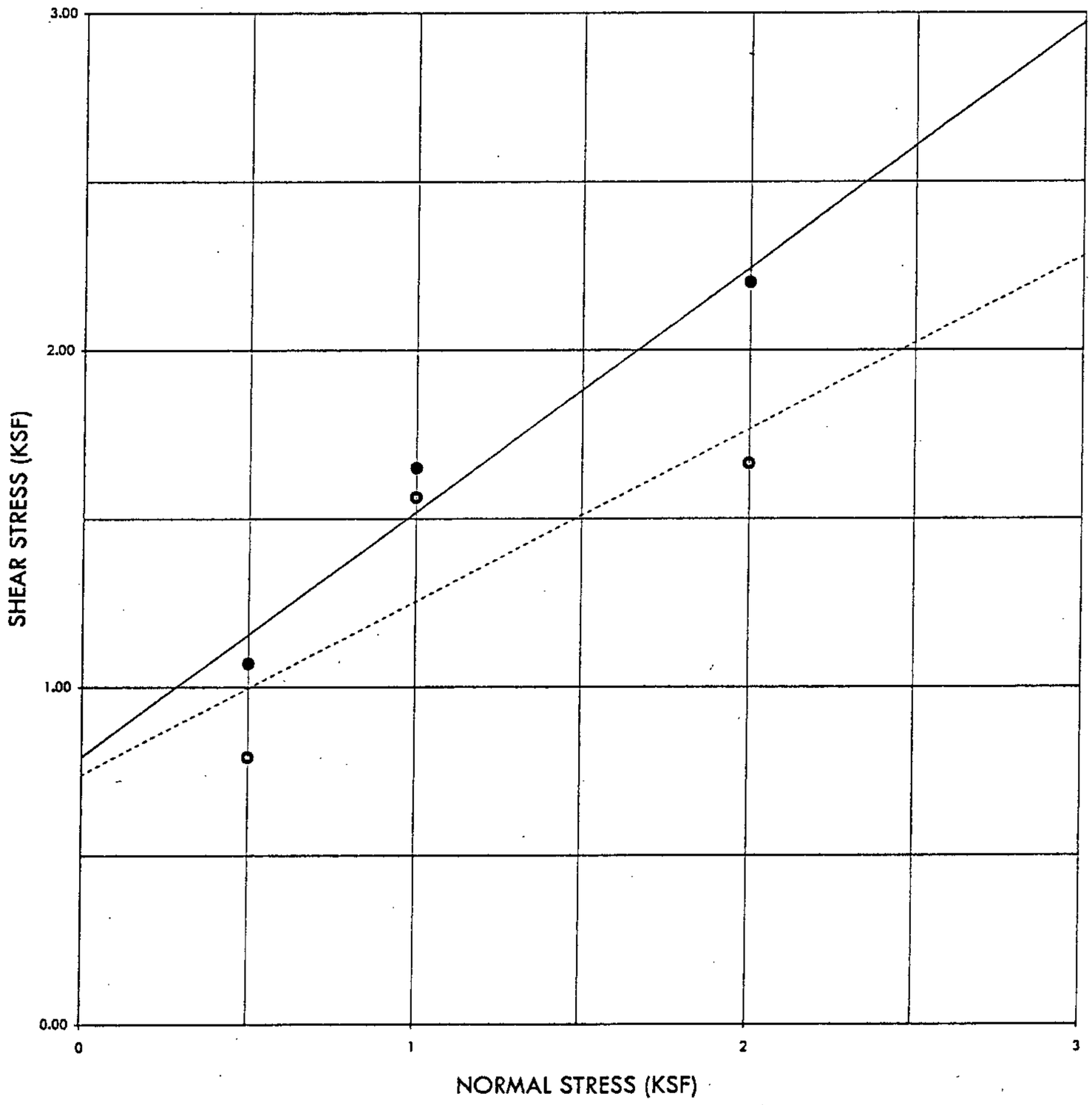
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-2
Depth, feet:	5
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown clayey sand.
Disp. Rate, in/min:	0.004
Dry Density, PCF:	123.1
Initial Moisture, %:	11.9%
Final Moisture, %:	17.9%
Test By:	egj/mnr
Remarks:	Undisturbed

SHEAR TEST RESULTS

legend:	—●—	- - ⊖ - -
NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	1.07	0.79
1	1.65	1.56
2	2.20	1.66
C =	**0.79 ksf**	**0.74 ksf**
TAN Φ =	**0.73**	**0.51**
Φ =	**36.0°**	**27.2°**



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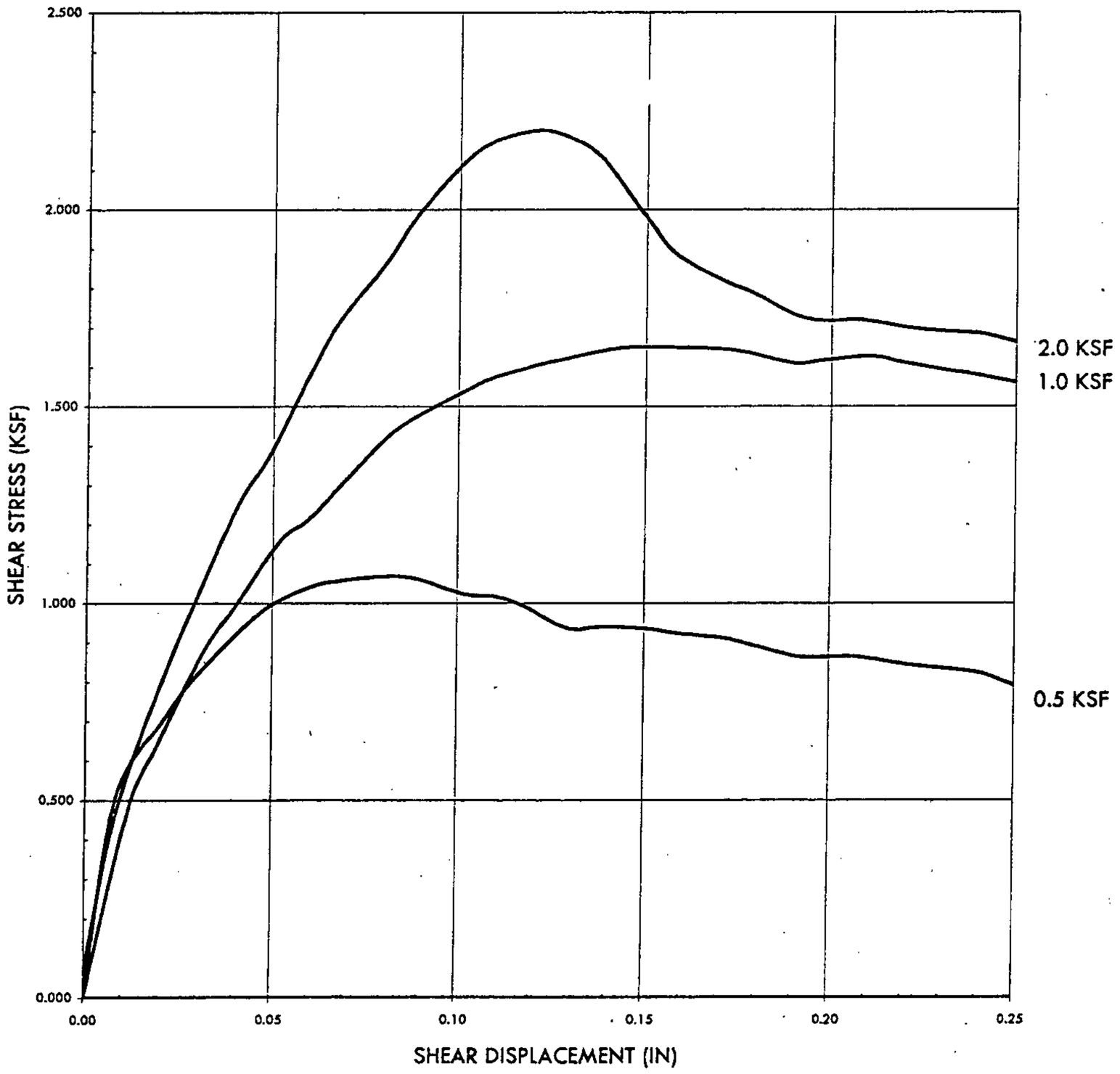
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-2
Depth, feet:	5
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown clayey sand.
Disp. Rate, in/min:	0.004
Dry Density, PCF:	123.1
Initial Moisture, %:	11.9%
Final Moisture, %:	17.9%
Test By:	egj/mnr
Remarks:	Undisturbed

SHEAR TEST RESULTS

NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	1.07	0.79
1	1.65	1.56
2	2.20	1.66
C =	**0.79 ksf**	**0.74 ksf**
TAN Φ =	**0.73**	**0.51**
Φ =	**36.0°**	**27.2°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

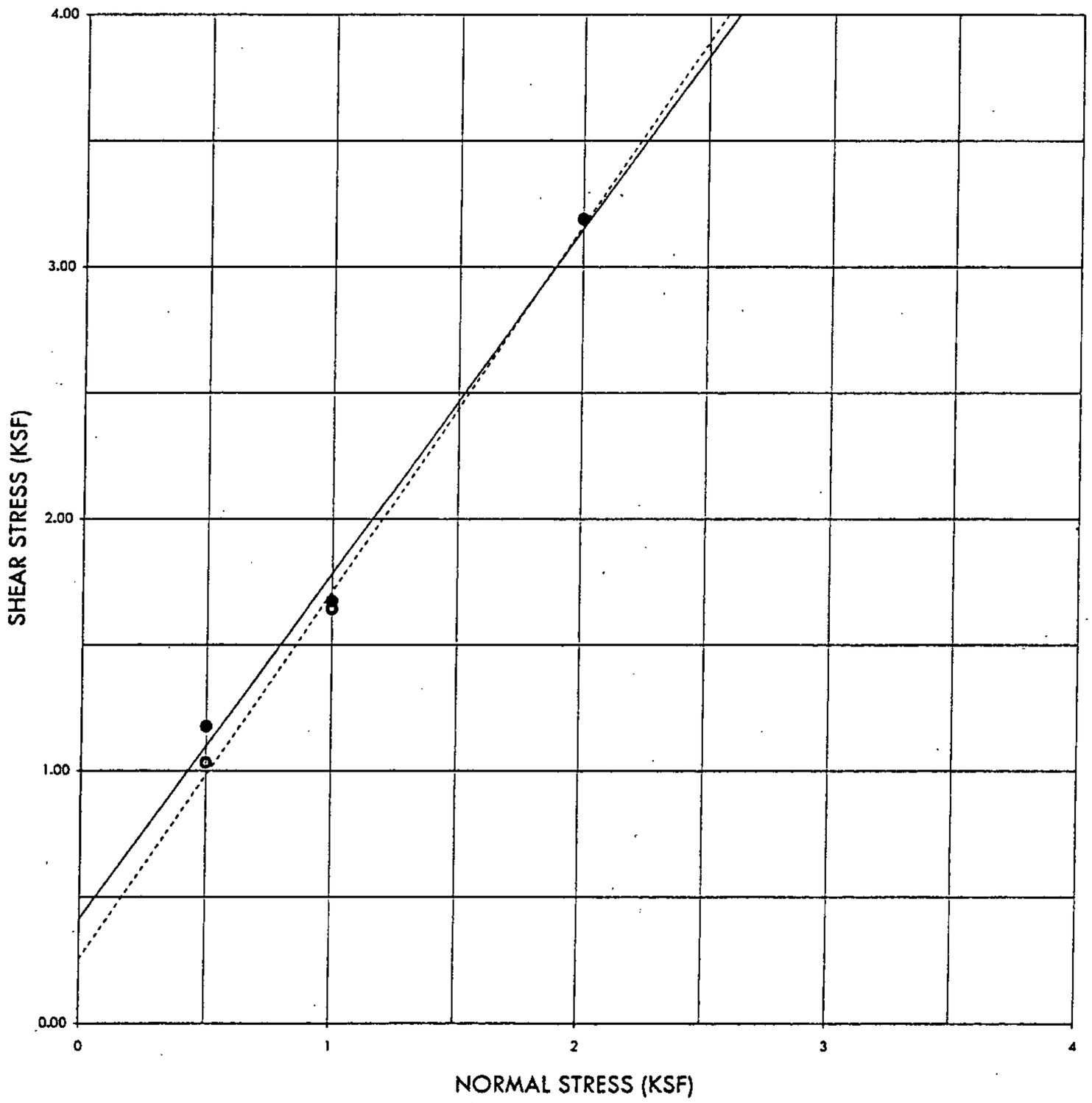
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-3
Depth, feet:	5
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown clayey sand with glass fragments
Disp. Rate, in/min:	0.004
Dry Density, PCF:	125.3
Initial Moisture, %:	11.3%
Final Moisture, %:	17.2%
Test By:	mnr/egl
Remarks:	Undisturbed

SHEAR TEST RESULTS

legend:	—●—	- - ⊖ - -
NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	1.18	1.03
1	1.67	1.64
2	3.19	3.19
C =	0.42 ksf	0.26 ksf
TAN Φ =	1.37	1.45
Φ =	53.8°	55.5°



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

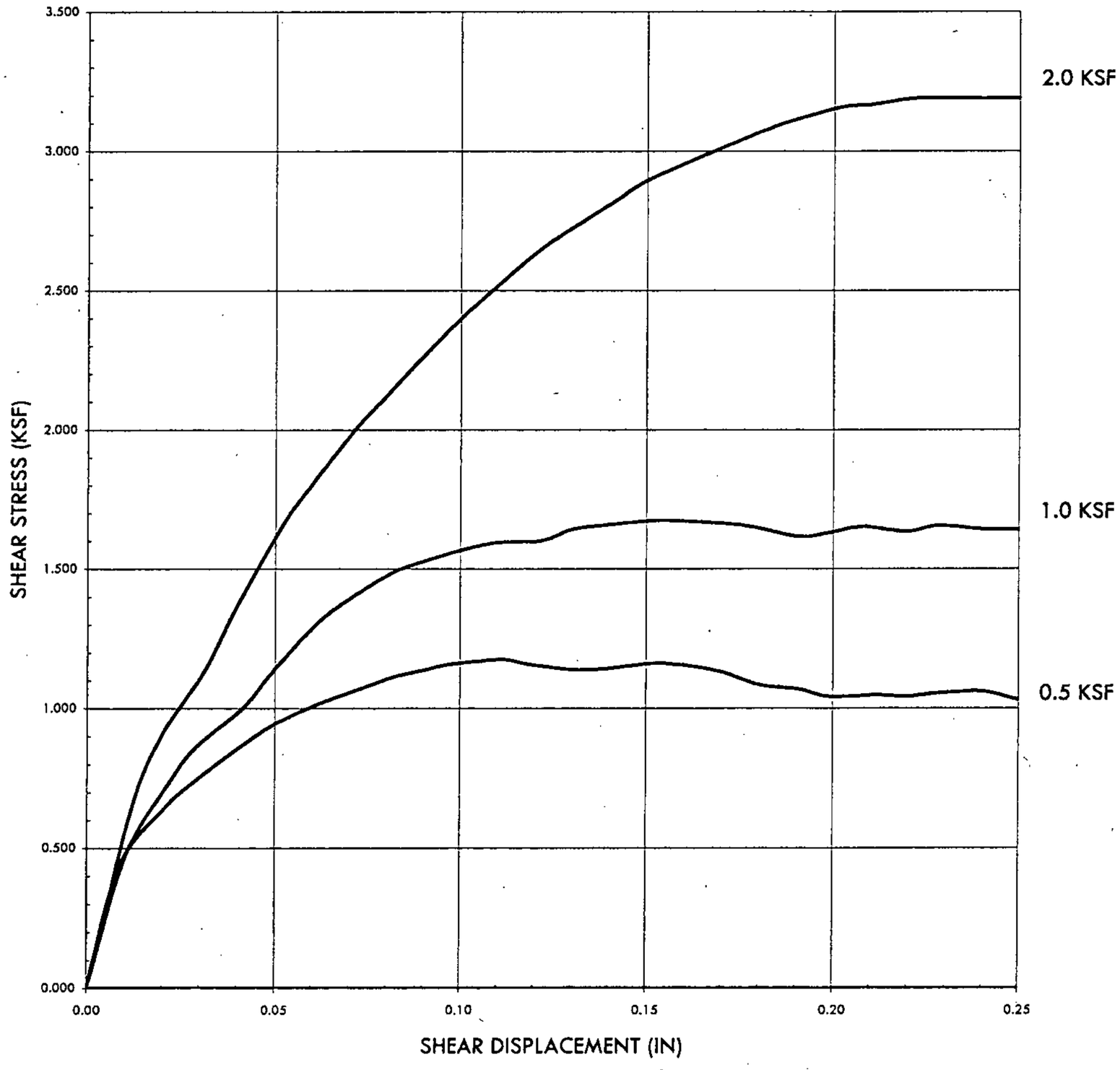
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-3
Depth, feet:	5
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown clayey sand with glass fragments
Disp. Rate, in/min:	0.004
Dry Density, PCF:	125.3
Initial Moisture, %:	11.3%
Final Moisture, %:	17.2%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS

NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	1.18	1.03
1	1.67	1.64
2	3.19	3.19
0	0.00	0.00
C =	**0.42 ksf**	**0.26 ksf**
TAN Φ =	**1.37**	**1.45**
Φ =	**53.8°**	**55.5°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

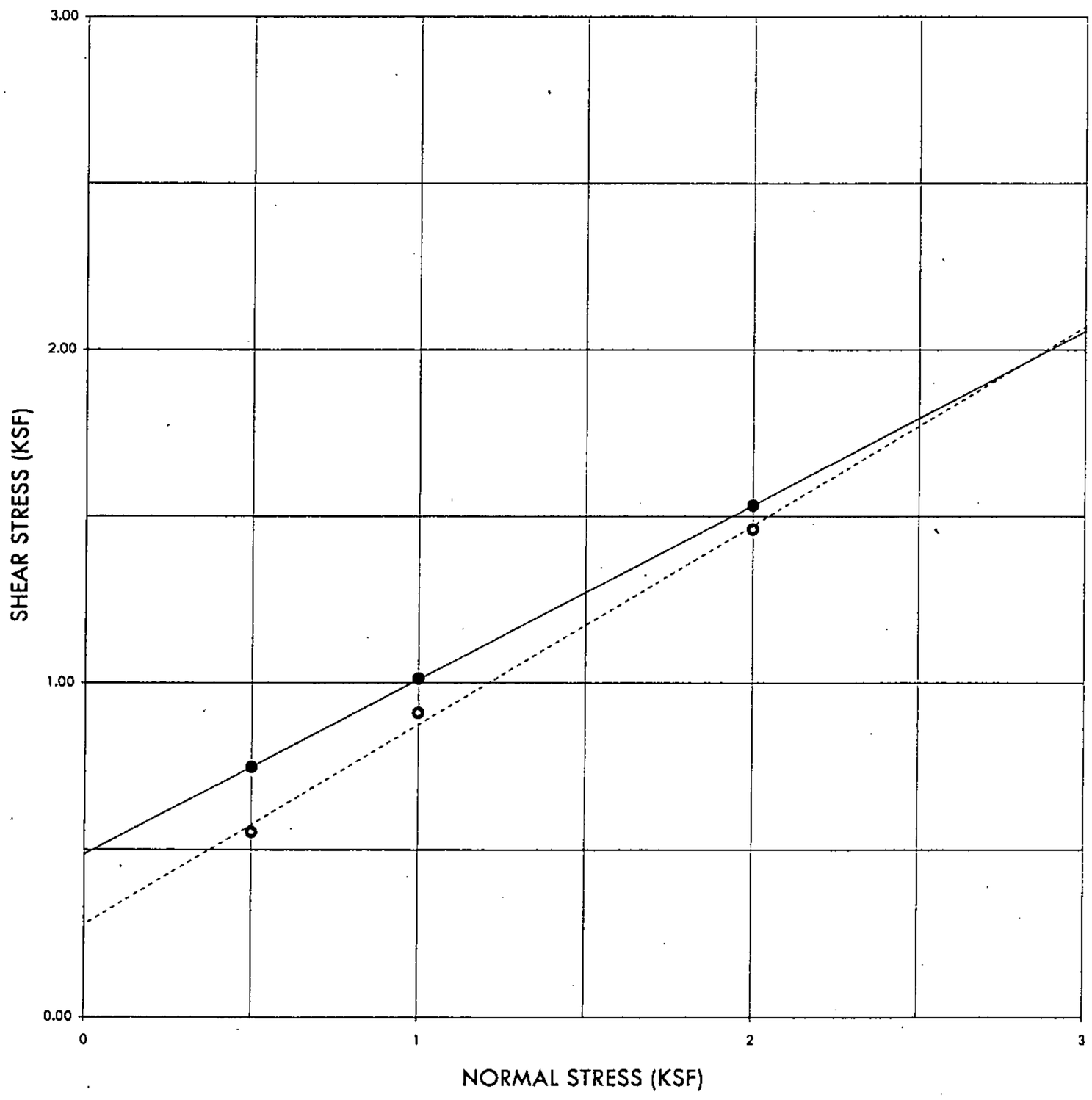
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-4
Depth, feet:	10
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown silty clay/clayey silt with some sand and glass fragments
Disp. Rate, in/min:	0.002
Dry Density, PCF:	109.9
Initial Moisture, %:	14.5%
Final Moisture, %:	31.4%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS

legend:	—●—	- - ⊖ - -
NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	0.75	0.55
1	1.01	0.91
2	1.53	1.46
C =	**0.49 ksf**	**0.28 ksf**
TAN Φ =	**0.52**	**0.60**
Φ =	**27.6°**	**30.9°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

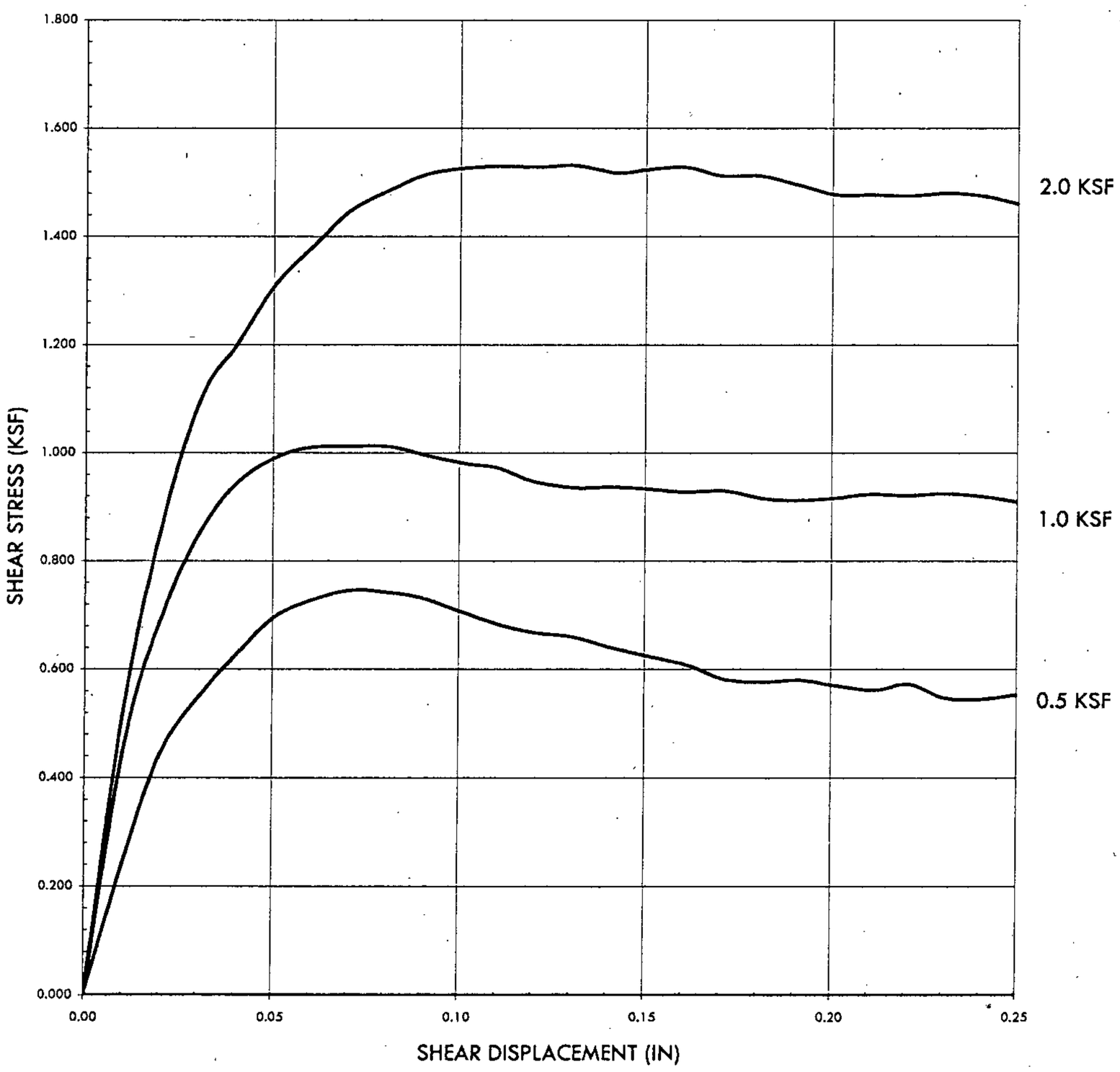
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-4
Depth, feet:	10
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown silty clay/clayey silt with some sand and glass fragments
Disp. Rate, in/min:	0.002
Dry Density, PCF:	109.9
Initial Moisture, %:	14.5%
Final Moisture, %:	31.4%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS

NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	0.75	0.55
1	1.01	0.91
2	1.53	1.46
C =	**0.49 ksf**	**0.28 ksf**
TAN Φ =	**0.52**	**0.60**
Φ =	**27.6°**	**30.9°**



1 0 5 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

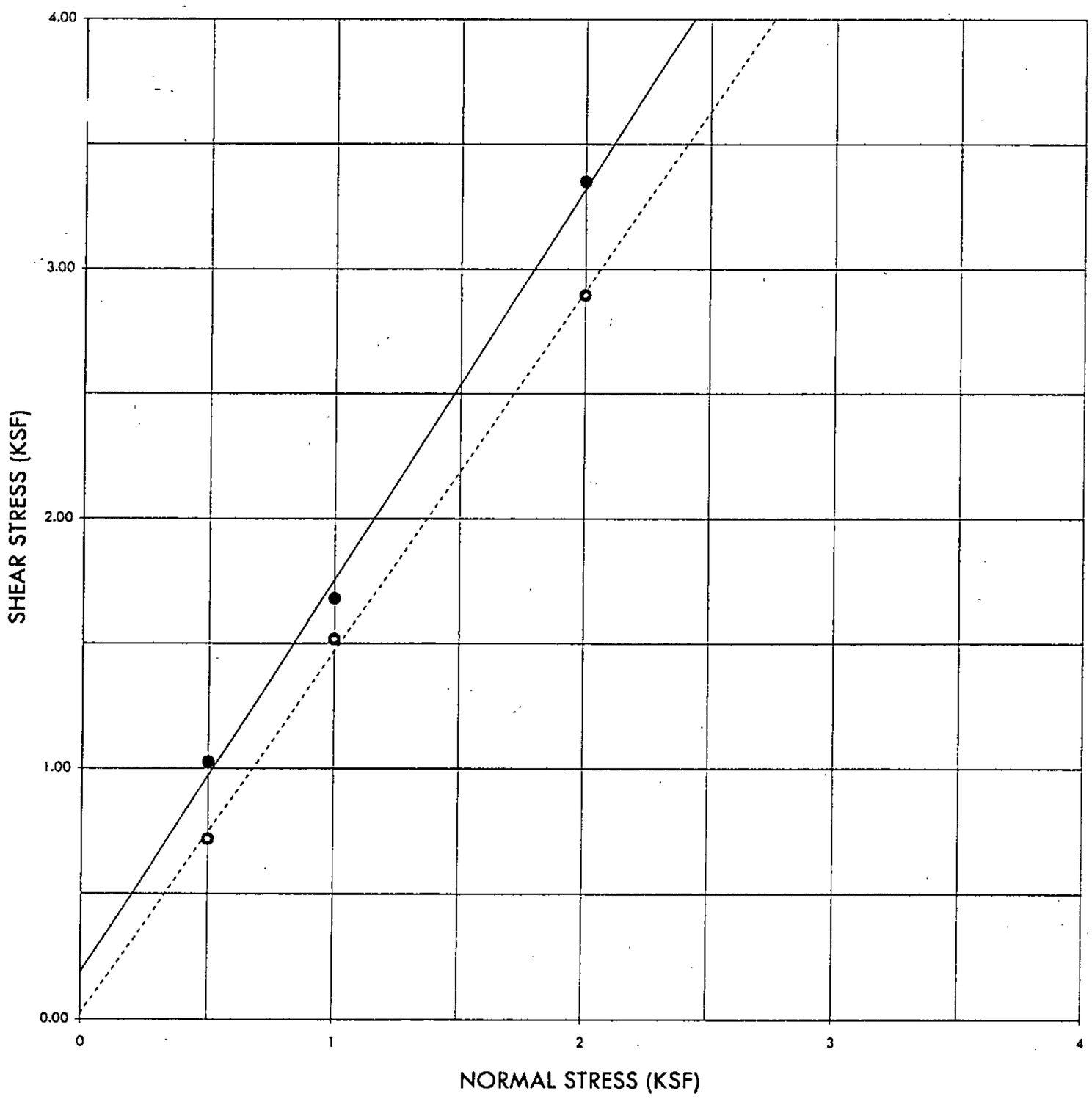
DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-5
Depth, feet:	5
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown silty clay/clayey silt with some sand and glass fragments
Disp. Rate, in/min:	0.004
Dry Density, PCF:	125.2
Initial Moisture, %:	11.0%
Final Moisture, %:	17.9%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS

legend:	—●—	- - ⊖ - -
NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	1.02	0.72
1	1.68	1.52
2	3.35	2.90

C =	**0.19 ksf**	**0.03 ksf**
TAN Φ =	**1.57**	**1.44**
Φ =	**57.4°**	**55.3°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

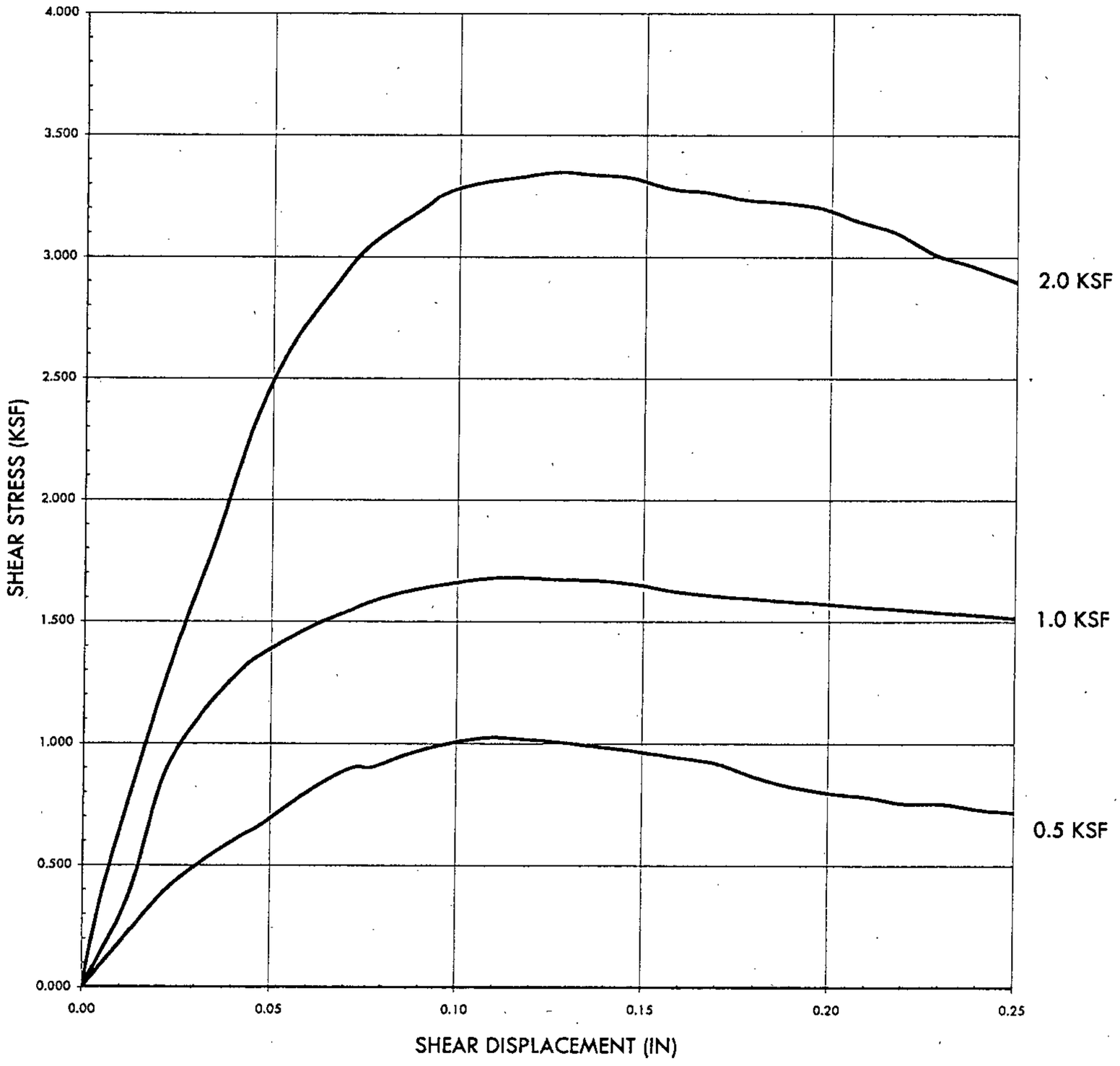
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-5
Depth, feet:	5
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown silty clay/clayey silt with some sand and glass fragments
Disp. Rate, in/min:	0.004
Dry Density, PCF:	125.2
Initial Moisture, %:	11.0%
Final Moisture, %:	17.9%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS

NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	1.02	0.72
1	1.68	1.52
2	3.35	2.90
C =	**0.19 ksf**	**0.03 ksf**
TAN Φ =	**1.57**	**1.44**
Φ =	**57.4°**	**55.3°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

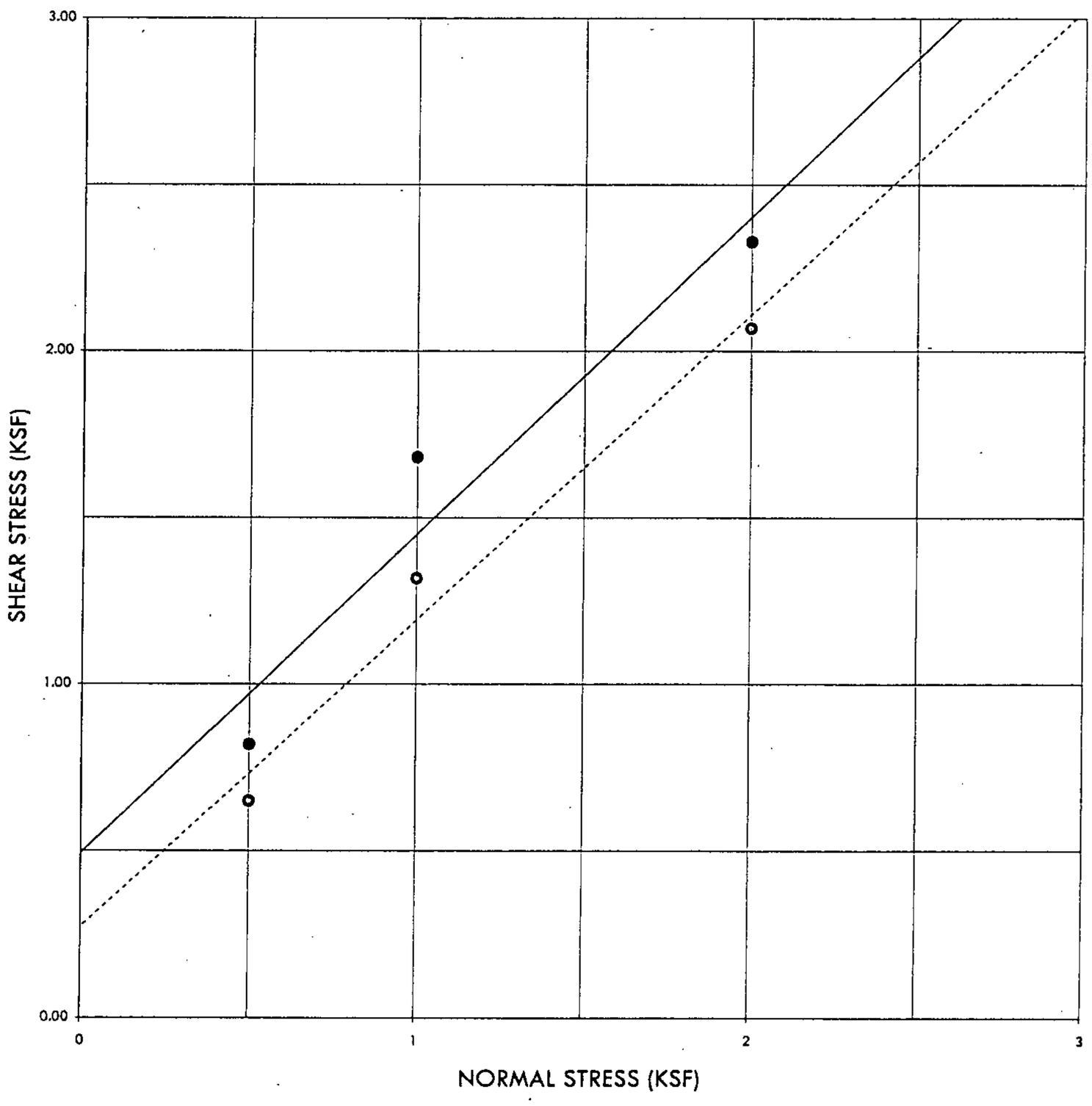
DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-6
Depth, feet:	10
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown silty clay/clayey silt with some sand and glass fragments
Disp. Rate, in/min:	0.004
Dry Density, PCF:	115.7
Initial Moisture, %:	3.6%
Final Moisture, %:	18.5%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS

legend:	—●—	- - ⊖ - -
NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	0.82	0.65
1	1.68	1.32
2	2.33	2.07

C =	**0.49 ksf**	**0.27 ksf**
TAN Φ =	**0.96**	**0.92**
Φ =	**43.7°**	**42.6°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

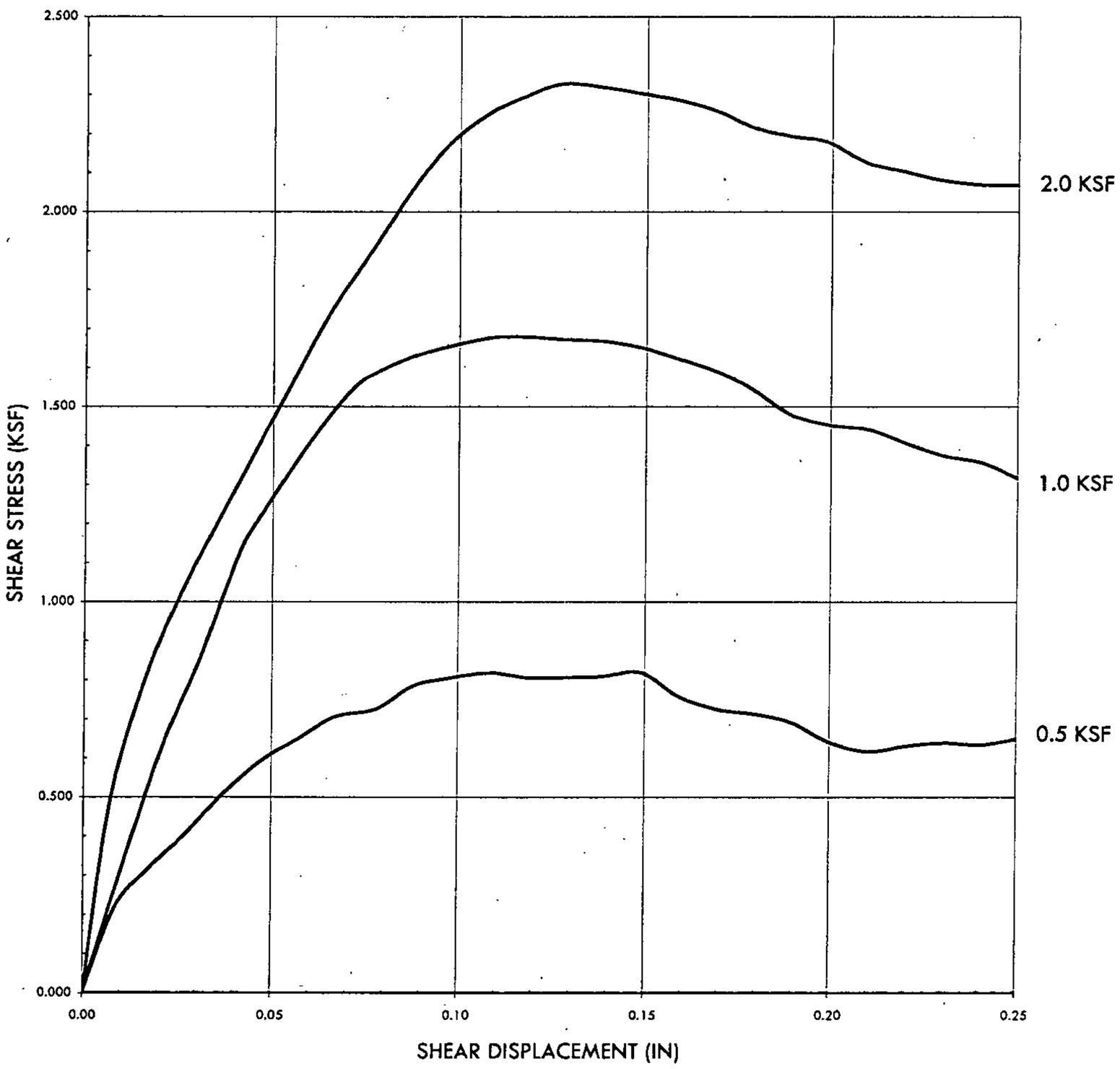
CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION, SOILS TESTING LAB
2319 DORRIS PLACE, LOS ANGELES, CA 90031
(213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5966
WO No.:	E1700618
Project Title:	Sheldon - Arleta Park, Cesar Chavez Sports Complex
Boring No.:	BB-6
Depth, feet:	10
Date Sampled:	8/23/2013
Diameter, in:	2.847
Soil Description:	Brown silty clay/clayey silt with some sand and glass fragments
Disp. Rate, in/min:	0.004
Dry Density, PCF:	115.7
Initial Moisture, %:	3.6%
Final Moisture, %:	18.5%
Test By:	mnr/egj
Remarks:	Undisturbed

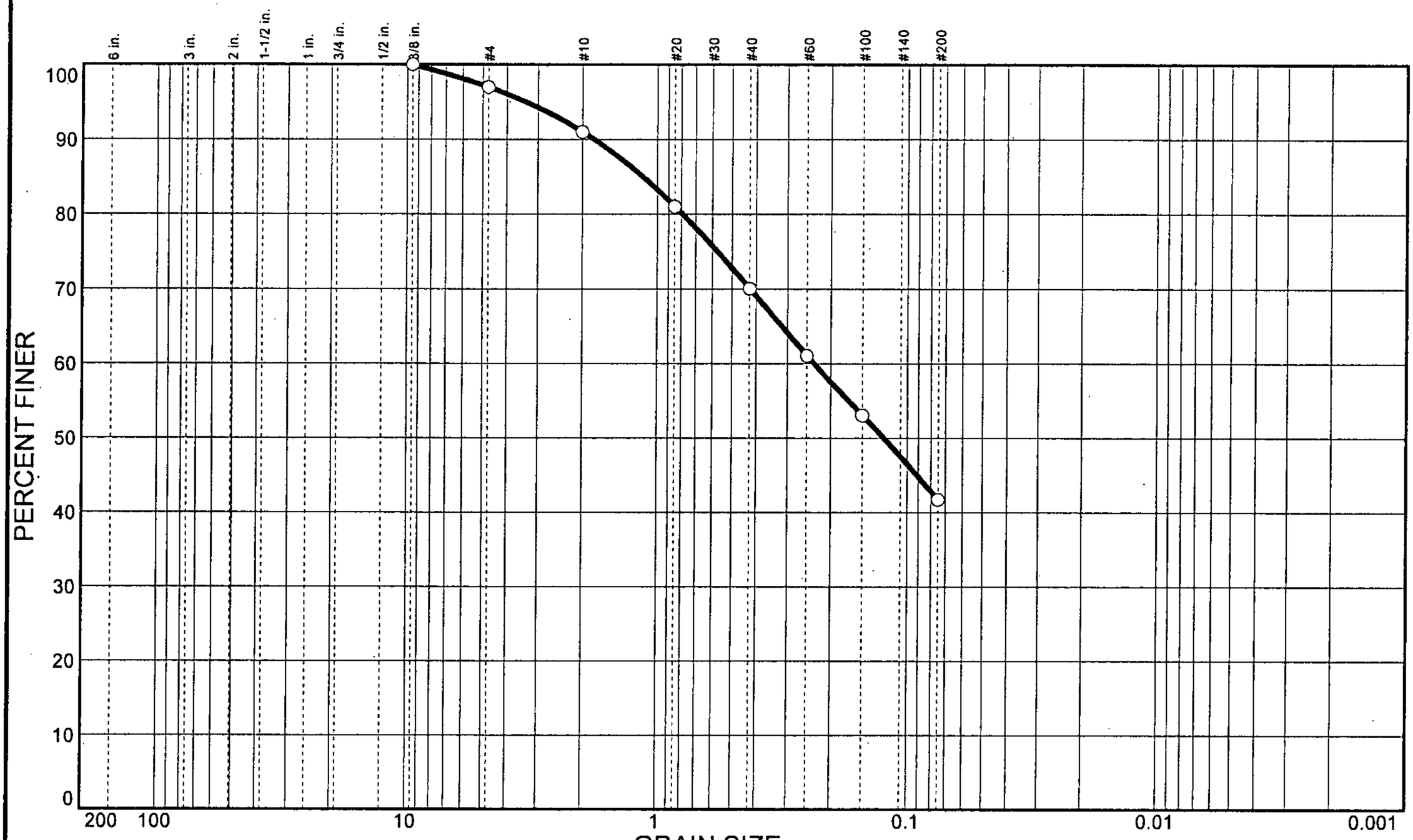
SHEAR TEST RESULTS

NORMAL STRESS, KSF	*PEAK SHEAR STRESS, KSF*	*FINAL SHEAR STRESS, KSF*
0.5	0.82	0.65
1	1.68	1.32
2	2.33	2.07
C =	**0.49 ksf**	**0.27 ksf**
TAN Φ =	**0.96**	**0.92**
Φ =	**43.7°**	**42.6°**



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

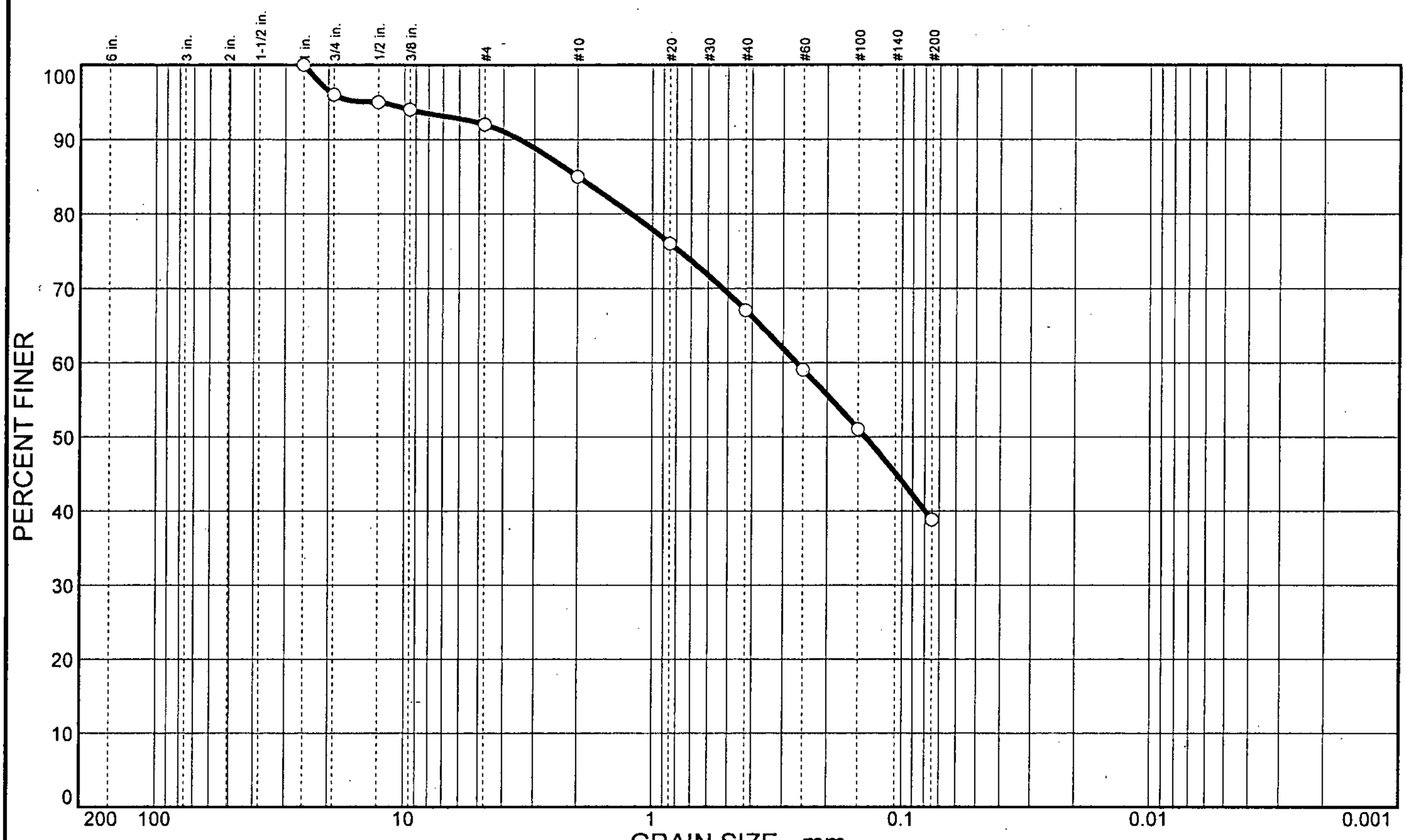
STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		3.0	55.3	41.7		SC		16	31

SIEVE inches size	PERCENT FINER ○		
3/8"	100.0		

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		8.0	53.2	38.8		SC		17	32

SIEVE inches size	PERCENT FINER ○		
1	100.0		
3/4"	96.0		
1/2"	95.0		
3/8"	94.0		
	GRAIN SIZE		
D_{60}	0.267		
D_{30}			
D_{10}			
	COEFFICIENTS		
C_C			
C_u			

SIEVE number size	PERCENT FINER ○		
#4	92.0		
#10	85.0		
#20	76.0		
#40	67.0		
#60	59.0		
#100	51.0		
#200	38.8		

SOIL DESCRIPTION

○ Clayey sand

REMARKS:

○

○ Location: T.H. NO. BB-3 @ 5 DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

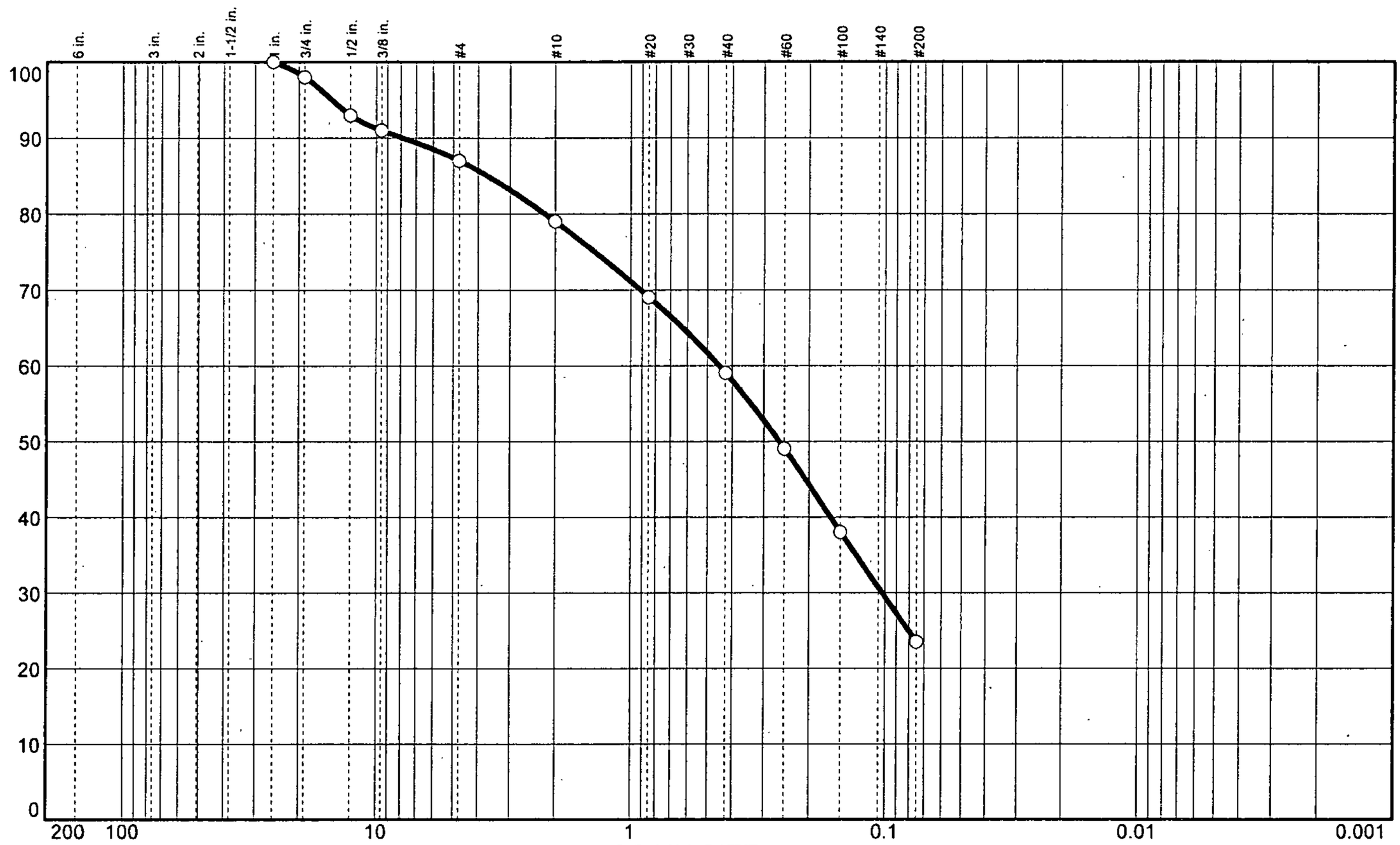
Client: Geotechnical Engineering Group

Project: Sheldon - Arleta Park, Cesar Chavez Sports Complex

Project No.: E1700618 Figure BB3@5

10 61 22 32 01 50 29 77

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		13.0	63.5	23.5		SM		NP	NP

SIEVE inches size	PERCENT FINER ○		
1	100.0		
3/4"	98.0		
1/2"	93.0		
3/8"	91.0		
	GRAIN SIZE		
D_{60}	0.452		
D_{30}	0.103		
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER ○		
#4	87.0		
#10	79.0		
#20	69.0		
#40	59.0		
#60	49.0		
#100	38.0		
#200	23.5		

SOIL DESCRIPTION

○ Silty sand

REMARKS:

○

○ Location: T.H. NO. BB-6 @ 5 DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

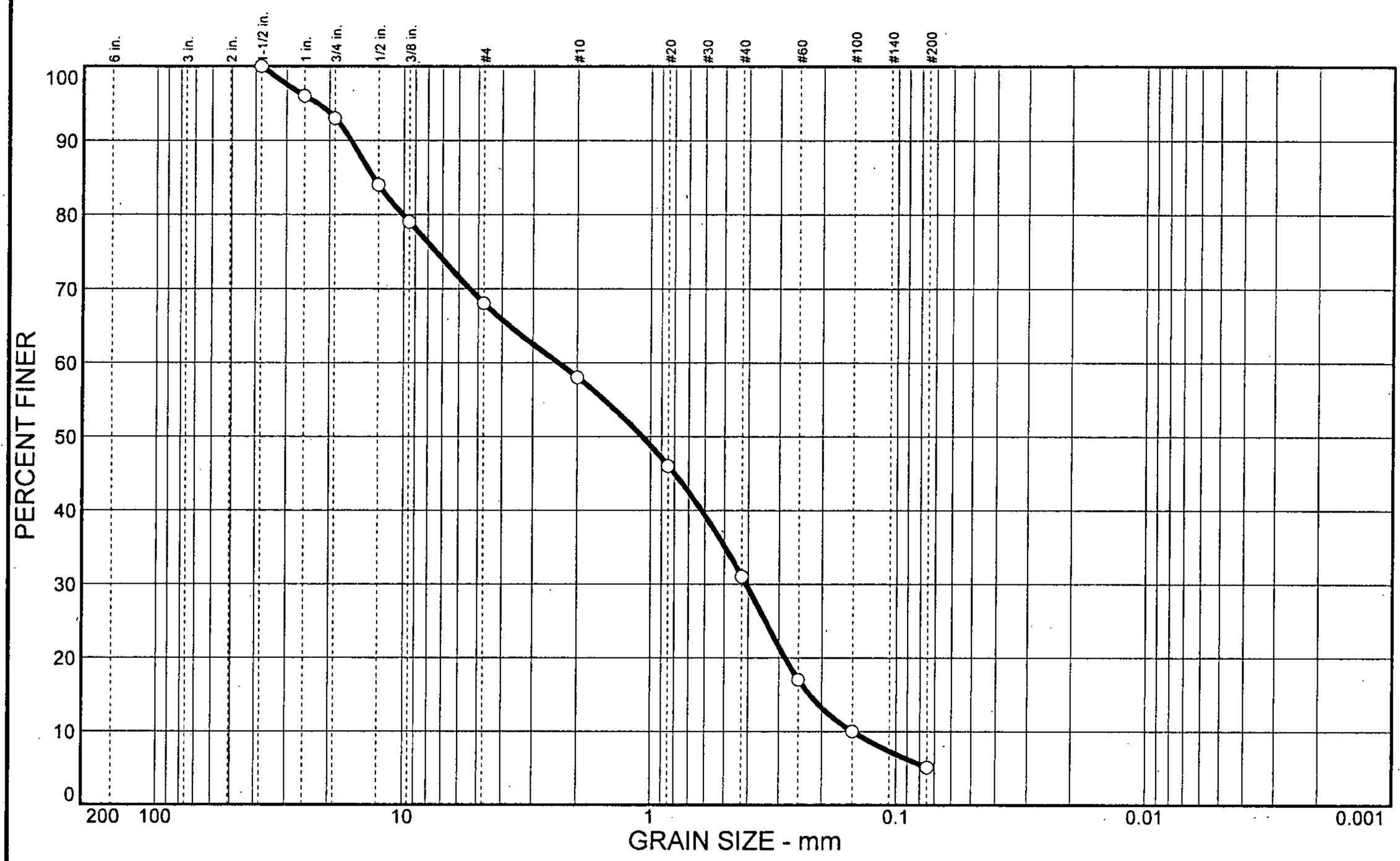
Client: Geotechnical Engineering Group

Project: Sheldon - Arleta Park, Cesar Chavez Sports Complex

Project No.: E1700618 Figure BB6@5

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		32.0	62.9	5.1		SP-SM		NP	NP

SIEVE inches size	PERCENT FINER ○		
1-1/2"	100.0		
1	96.0		
3/4"	93.0		
1/2"	84.0		
3/8"	79.0		
	GRAIN SIZE		
D_{60}	2.40		
D_{30}	0.410		
D_{10}	0.150		
	COEFFICIENTS		
C_c	0.47		
C_u	15.98		

SIEVE number size	PERCENT FINER ○		
#4	68.0		
#10	58.0		
#20	46.0		
#40	31.0		
#60	17.0		
#100	10.0		
#200	5.1		

SOIL DESCRIPTION

○ Poorly graded sand with silt and gravel

REMARKS:

○

○ Location: T.H. NO. BB-7 @ 10 DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

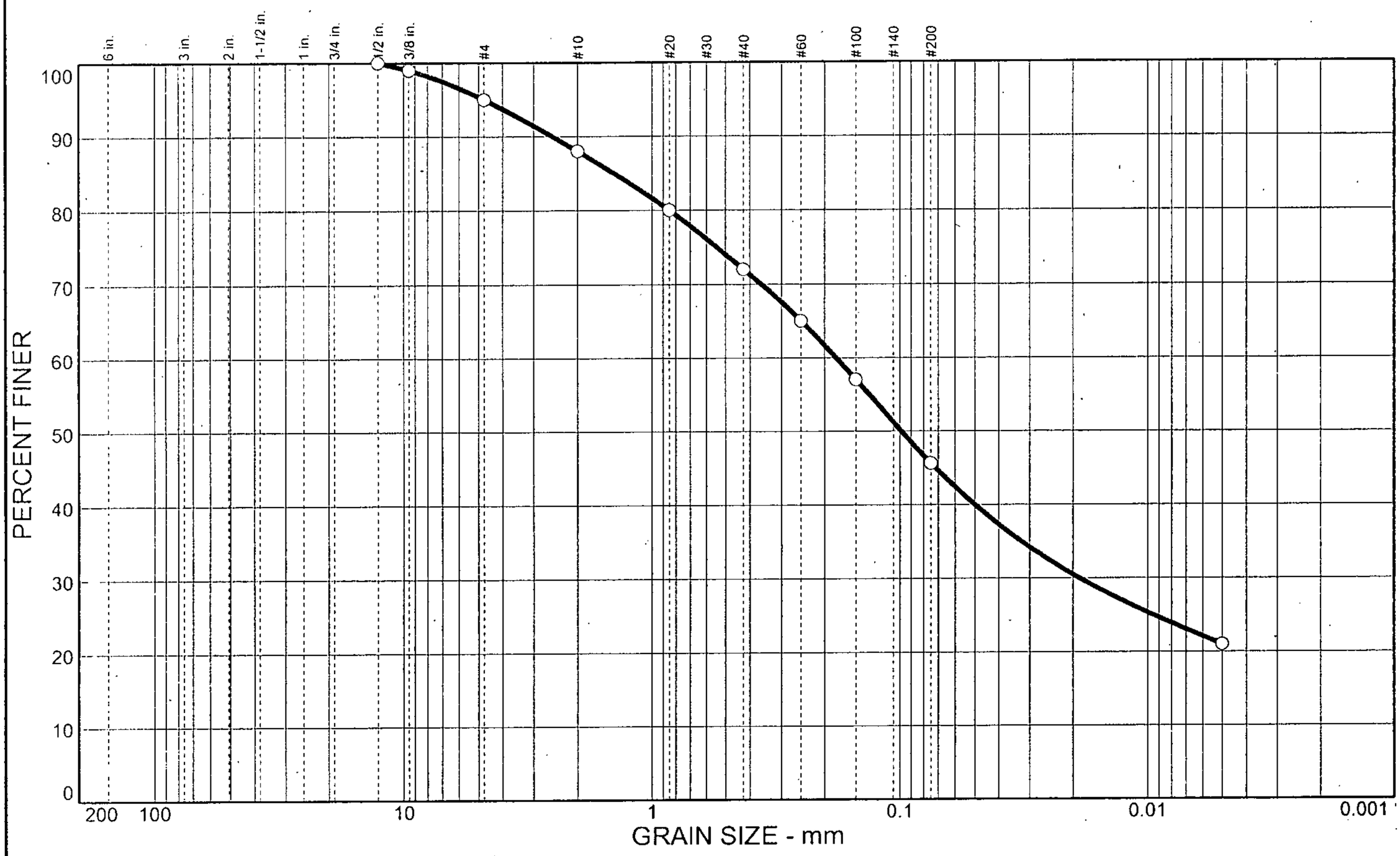
Client: Geotechnical Engineering Group

Project: Sheldon - Arleta Park, Cesar Chavez Sports Complex

Project No.: E1700618 Figure BB7@10

10612232015029777

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		5.0	49.4	24.6	21.0	SC		16	31

SIEVE inches size	PERCENT FINER ○		
1/2"	100.0		
3/8"	99.0		
	GRAIN SIZE		
D_{60}	0.180		
D_{30}	0.0189		
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER ○		
#4	95.0		
#10	88.0		
#20	80.0		
#40	72.0		
#60	65.0		
#100	57.0		
#200	45.6		

SOIL DESCRIPTION

○ Clayey sand

REMARKS:

○

○ Location: T.H. NO. S-1 @ 0-12" DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

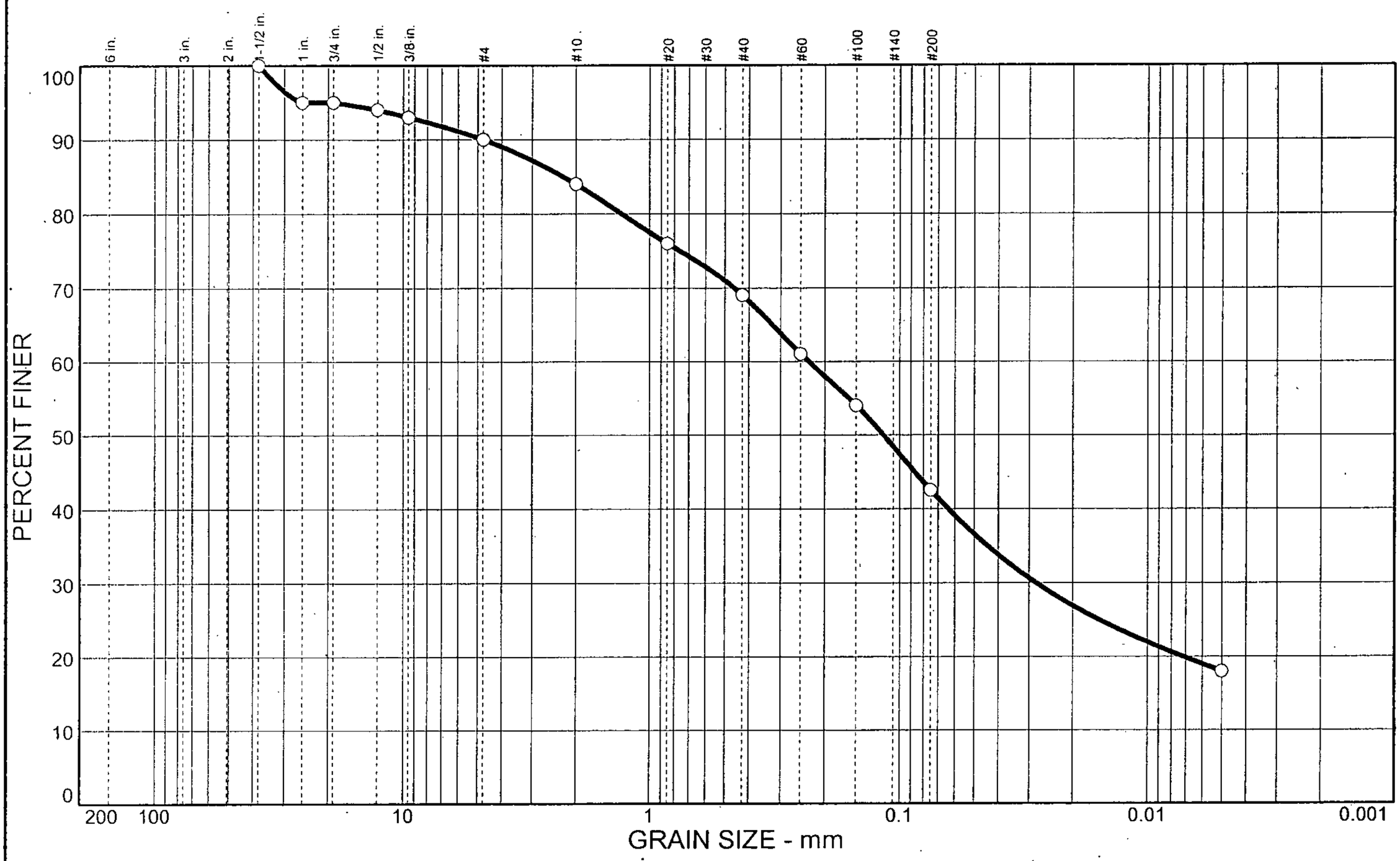
1 0 8 1 2 2 3 2 0 1 5 0 2 9 7 7

Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park / Cesar Chavez Complex

Project No.: E1700618 Figure S1@0-12"

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		10.0	47.5	24.5	18.0	SC		18	30

SIEVE inches size	PERCENT FINER ○		
1-1/2"	100.0		
1	95.0		
3/4"	95.0		
1/2"	94.0		
3/8"	93.0		
GRAIN SIZE			
D_{60}	0.233		
D_{30}	0.0281		
D_{10}			
COEFFICIENTS			
C_c			
C_u			

SIEVE number size	PERCENT FINER ○		
#4	90.0		
#10	84.0		
#20	76.0		
#40	69.0		
#60	61.0		
#100	54.0		
#200	42.5		

SOIL DESCRIPTION

○ Clayey sand

REMARKS:

○

○ Location: T.H. NO. S-3 @ 0-12" DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

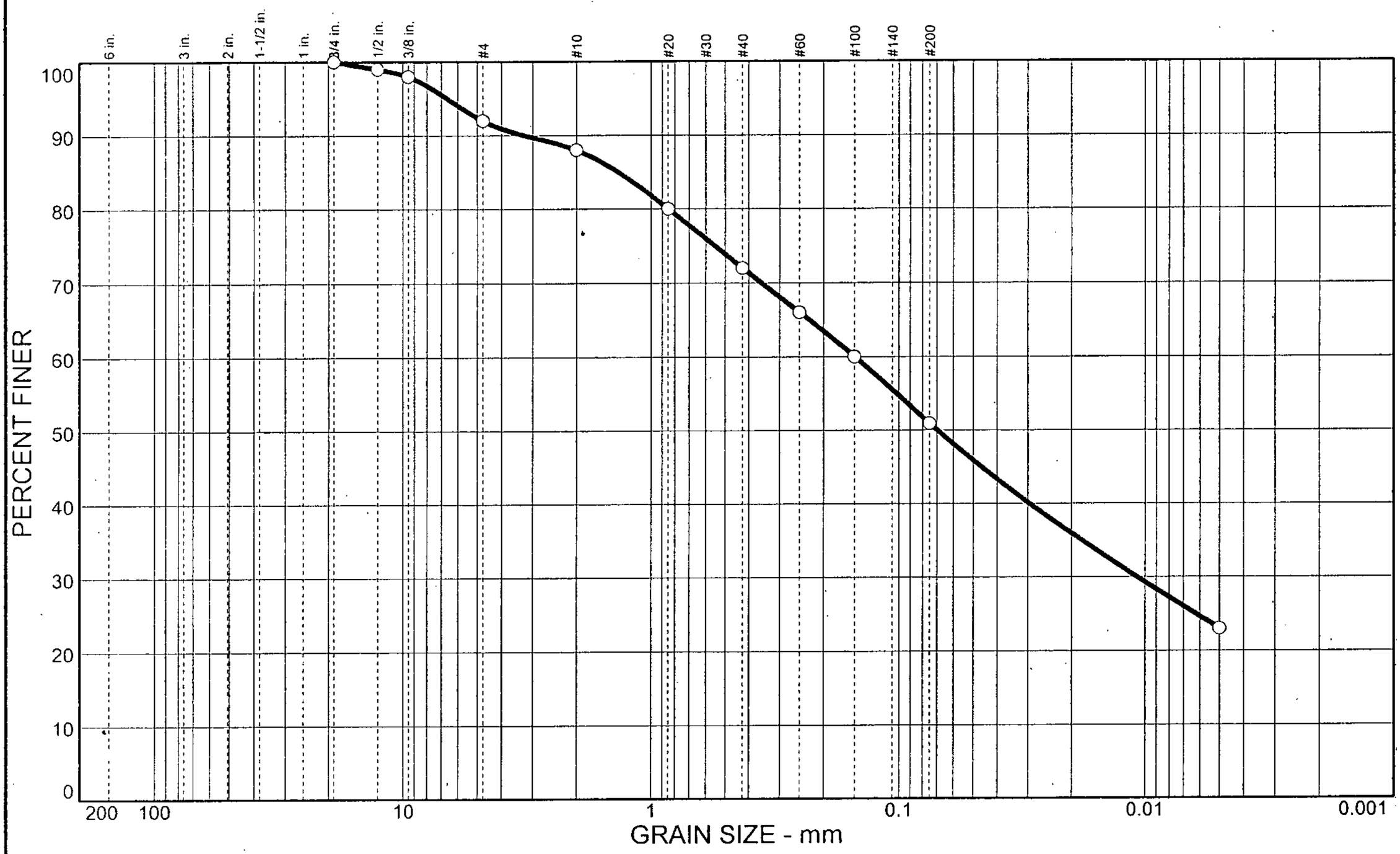
Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park / Cesar Chavez Complex

Project No.: E1700618 Figure S3@0-12"

10:12232015029777

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		8.0	41.1	27.9	23.0	CL		19	39

SIEVE inches size	PERCENT FINER ○		
3/4"	100.0		
1/2"	99.0		
3/8"	98.0		
	GRAIN SIZE		
D_{60}	0.150		
D_{30}	0.0108		
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER ○		
#4	92.0		
#10	88.0		
#20	80.0		
#40	72.0		
#60	66.0		
#100	60.0		
#200	50.9		

SOIL DESCRIPTION

○ Sandy lean clay

REMARKS:

○

○ Location: T.H. NO. S-5 @ 0-12" DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

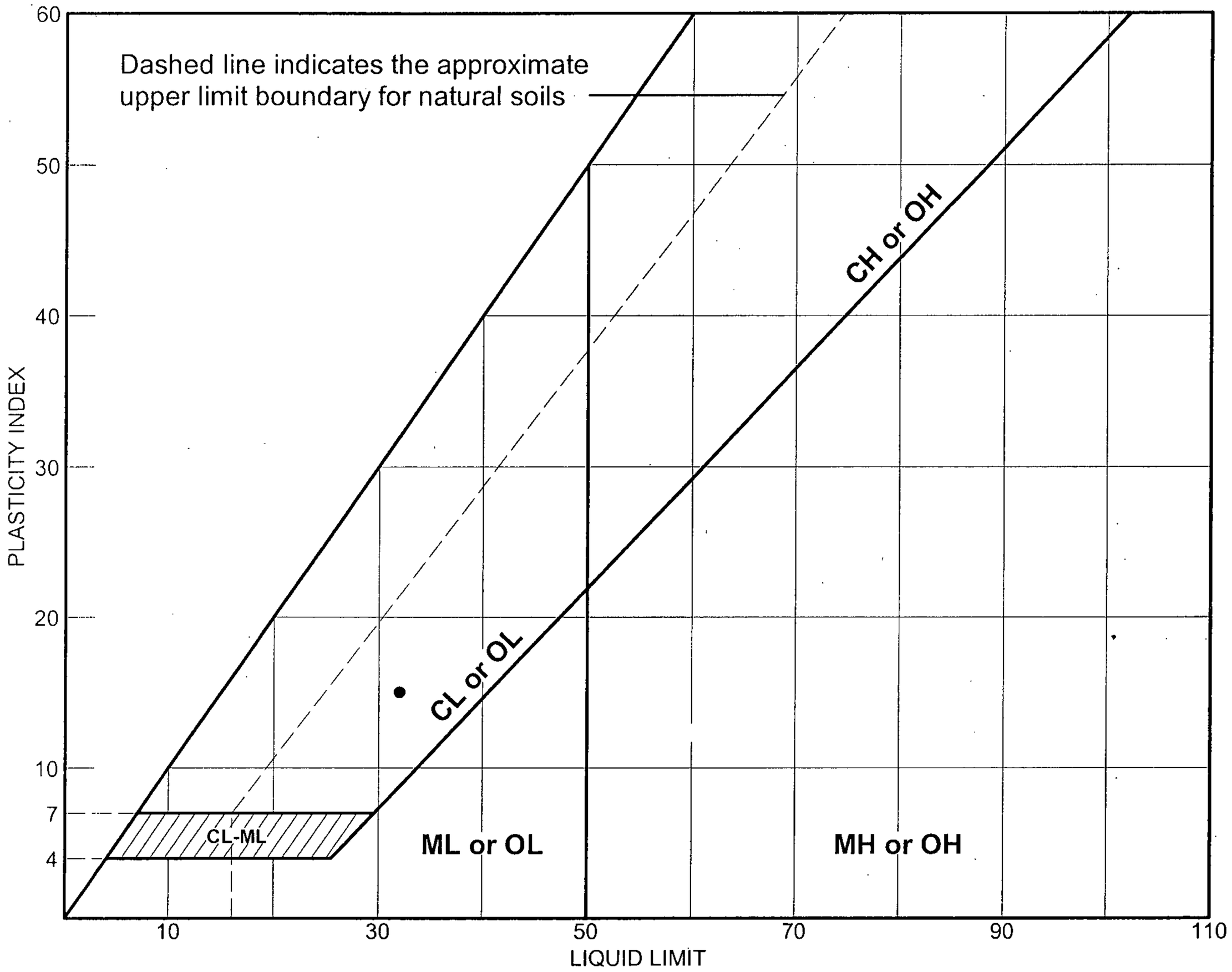
Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park / Cesar Chavez Complex

Project No.: E1700618 Figure S5@0-12"

10 11 12 13 20 15 02 97

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		S-2	0-12"		17	32	15	

LIQUID AND PLASTIC LIMITS TEST REPORT

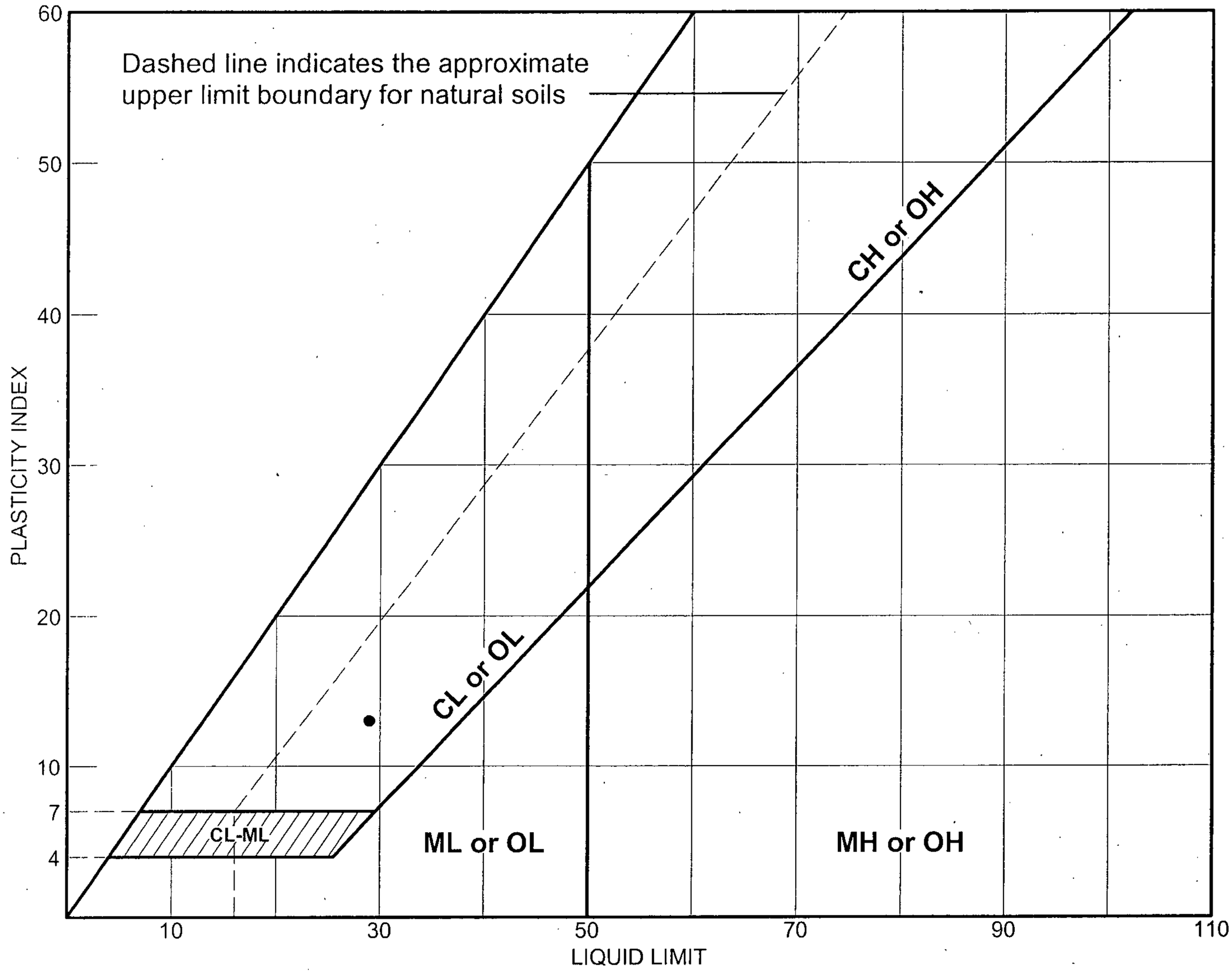
CITY OF LOS ANGELES - STANDARDS DIVISION

Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park / Cesar Chavez Complex

Project No.: E1700618 **Figure** S2@0-12"

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		S-4	0-12"		16	29	13	

LIQUID AND PLASTIC LIMITS TEST REPORT

CITY OF LOS ANGELES - STANDARDS DIVISION

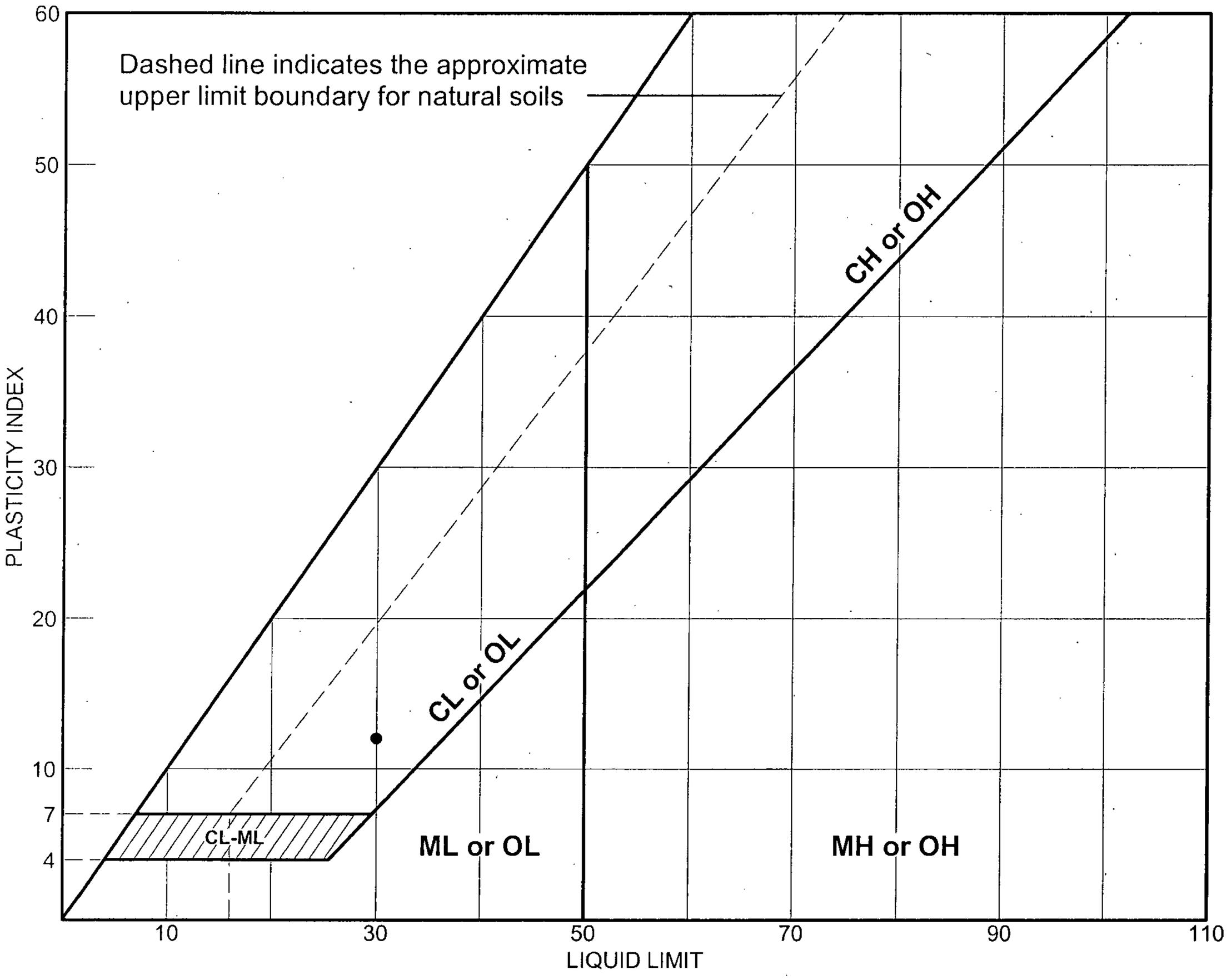
Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park / Cesar Chavez Complex

Project No.: E1700618

Figure S4@0-12"

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		S-6	0-12"		18	30	12	

LIQUID AND PLASTIC LIMITS TEST REPORT

CITY OF LOS ANGELES - STANDARDS DIVISION

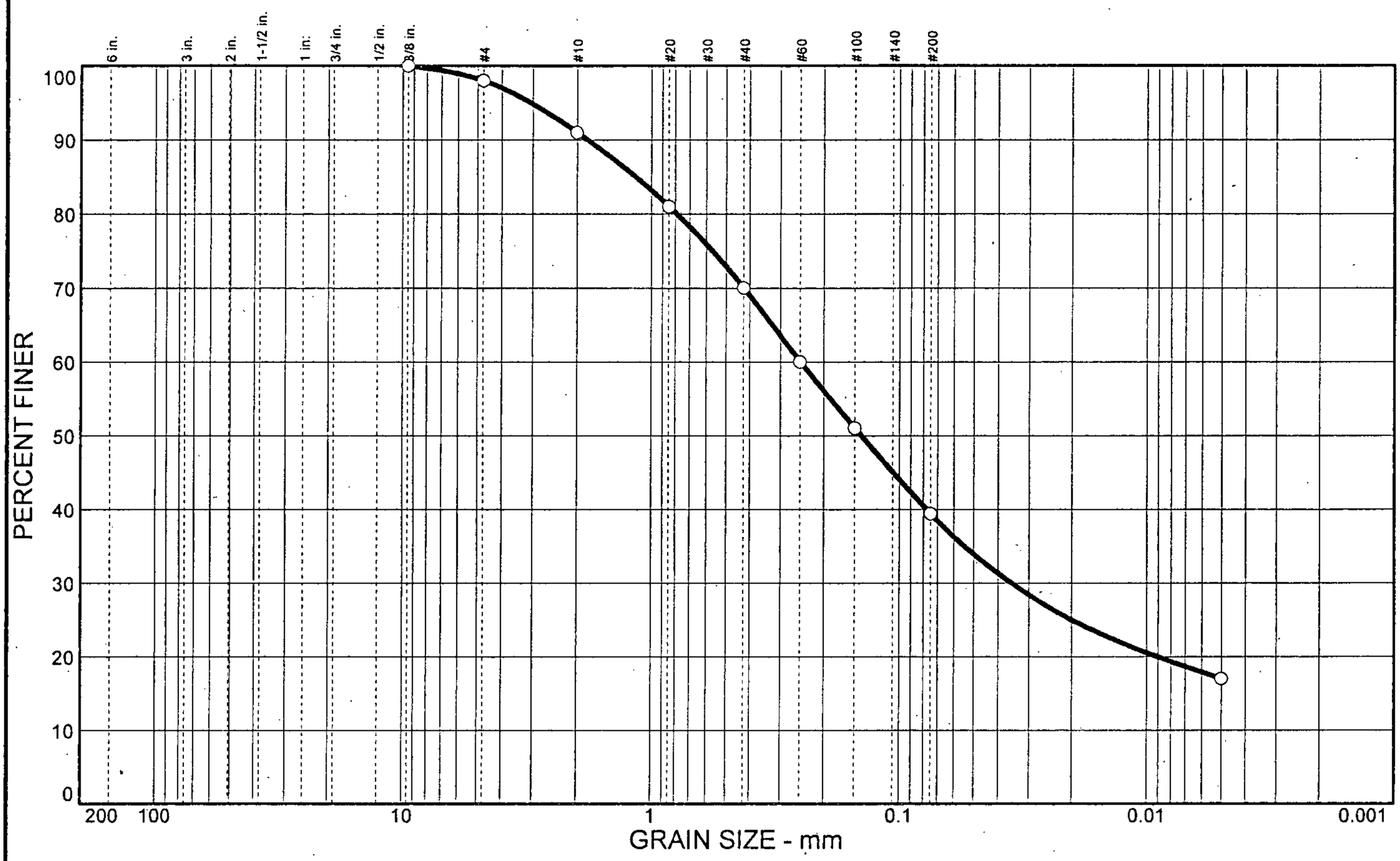
Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park / Cesar Chavez Complex

Project No.: E1700618 **Figure** S6@0-12"

10 8 1 2 2 3 2 0 1 5 0 2 9 7 7

STANDARDS DIVISION: Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		2.0	58.6	22.4	17.0	SC		15	31

SIEVE inches size	PERCENT FINER ○		
3/8"	100.0		
GRAIN SIZE			
D_{60}	0.250		
D_{30}	0.0354		
D_{10}			
COEFFICIENTS			
C_c			
C_u			

SIEVE number size	PERCENT FINER ○		
#4	98.0		
#10	91.0		
#20	81.0		
#40	70.0		
#60	60.0		
#100	51.0		
#200	39.4		

SOIL DESCRIPTION

○ Clayey sand

REMARKS:

○

○ Location: T.H. NO. S-7 @ 0-2" DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION

Client: Geotechnical Engineering Group

Project: Sheldon-Arleta Park, Cesar Chavez Sports Complex

Project No.: E1700618 Figure S7@0-2"

10612232015029772

Lab No.: 140-5966

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES
(213) 485-2242

TEST BORING DATA

Job Title: Sheldon - Arleta Park, Cesar Chavez Sports Complex

Work Order No: E1700618

Test Boring No.	BB-1		BB-2	BB-3		BB-4		
Sample Depth, ft.	5	10	5	5	10	5	10	15
In Place Dry Density, pcf	129.5	114.1	123.1	125.3	118.5	119.4	109.9	108.7
Field Moisture, %	9.0	8.2	11.9	11.3	8.5	13.1	14.5	13.9
Mechanical Analysis (% passing)								
3/4"	100			96				
No. 4	97			92				
No. 10	91			85				
No. 20	81			76				
No. 40	70			67				
No. 60	61			59				
No. 100	53			51				
No. 200	41.7			38.8				
5 μ (micron), %								
Liquid Limit, %	31			32				
Plasticity Index, %	15			15				

10612232015029 77

Lab No.: 140-5966

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES
(213) 485-2242

TEST BORING DATA

Job Title: Sheldon - Arleta Park, Cesar Chavez Sports Complex

Work Order No: E1700618

Test Boring No.	BB-5	BB-6		BB-7	
Sample Depth, ft.	5	5	10	5	10
In Place Dry Density, pcf	125.2	125.5	115.7	122.3	122.5
Field Moisture, %	11.0	7.5	3.6	11.2	1.5
Mechanical Analysis (% passing)					
3/4"		98			93
No. 4		87			68
No. 10		97			58
No. 20		94			46
No. 40		90			31
No. 60		86			17
No. 100		82			10
No. 200		76.8			5.1
5 μ (micron), %					
Liquid Limit, %		NP			NP
Plasticity Index, %		NP			NP

Lab No.: 140-5966

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES
(213) 485-2242

TEST BORING DATA

Job Title: Sheldon - Arleta Park, Cesar Chavez Sports Complex

Work Order No: E1700618

Test Boring No.	S-1	S-2	S-3	S-4	S-6	S-7
Sample Depth, ft.	0-12"	0-12"	0-12"	0-12"	0-12"	0-2"
In Place Dry Density, pcf						
Field Moisture, %	6.4	4.9	3.3	3.5	3.9	
Mechanical Analysis (% passing)						
3/4"	100		95			100
No. 4	95		90			98
No. 10	88		84			91
No. 20	80		76			81
No. 40	72		69			70
No. 60	65		61			60
No. 100	57		54			51
No. 200	45.6		42.5			39.4
5 μ (micron), %	21		18			17
Liquid Limit, %	31	32	30	29	30	31
Plasticity Index, %	15	15	12	13	12	16

APPENDIX B

(Building and Safety Documents)

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

TO - Tom.
PW

City of Los Angeles

SOIL REPORT APPROVAL LIST

LOG#: 45346 DATE: 10/19/2004 SOIL/GEOLOGY FILE - 2

JOB ADDRESS: 12455 Wicks Street DISTRICT OFFICE: VN

TRACT: 14137 COUNTY REF. #: MP 287-36/

BLOCK:

LOT: 5 ARB:

CURRENT REPORT: LA City GED DATED: 8/27/04

CURRENT REPORT: DATED:

OVERSIZED DOCUMENTS X-REF: 2X DATED: 8/27/04 X-REF: DATED:

PREVIOUS REPORT: DATED:

PREVIOUS REPORT: DATED:

PROJECT DESCRIPTION/COMMENTS: Proposed construction of a new concession stand/restroom building along Wicks Street, a restroom building along Sheldon Street, and a new flare station that preferably be located in the northwest corner of the site, but alternatively can be located in the southwest corner of the site. According to the report, the location of the edge of the landfill is recommended to be determined during grading in order to establish the final location of the structures. The proposed buildings are recommended to be located outside the limits of the landfill and underlain by shallow engineered fill over native soils as recommended. Conventional shallow spread foundations founded in engineered fill over the native soils are recommended for structural support. The report recommends existing fill materials below the proposed foundations to be removed and recompacted to reduce structure settlements.

REVIEWED BY (Fred Wong) TELEPHONE (213) 482-0491

REVIEWED BY ( ) TELEPHONE

ROBERT STEINBACH - CHIEF OF GRADING DIVISION

SEISMIC HAZARD INFORMATION

LIQUEFACTION STUDY ZONE?	☐ YES	■ NO
SEISMIC-INDUCED LANDSLIDE STUDY ZONE?	☐ YES	■ NO
EXEMPT FROM SEISMIC HAZARD ZONE REQUIREMENTS	■ YES	☐ NO

The geology/soil engineering report(s) have been reviewed by the Grading Section of the Department and have been found to be acceptable provided the proposed construction complies with the conditions specified in this letter. The approval of the reports does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in parenthesis ( ) refer to Code sections of the 1998 edition of the California Building Code, Information Bulletin (P/BC).

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

LOG#: 45346

INSTRUCTIONS

- All of the following listed and circled conditions shall apply: 1,2,6~8,11,12,13,18,22,24~27,29,31~33,35~39,& 55~58.

- One copy of the subject geologic/soil engineering reports and this approval letter shall be attached to the field set of plans and one copy shall be provided to the Department Plan Checker prior to issuance of the permits.

PLANS

1. The geologist/soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans include the recommendations contained in their reports.

2. All recommendations of the report(s) which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. All conditions of the Department letter(s) dated____ shall apply, except as superseded herein.

GENERAL BUILDING

4. Buildings adjacent to ascending slopes shall be set back from the toe of the slope a level distance equal to one half the vertical height of the slope, but need not exceed 15 feet. (1806.5.2)

5. Whenever the principal building on a site is added to, altered or repaired in excess of 50 percent of its replacement value, the entire site shall be brought up to the current Code standard. (7005.9)

6. The LABC Soil Type underlying the site is S d . (Table 16 A-J)

FOOTINGS/SLABS

7. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of 3 feet whichever is greater.

8. All footings shall be founded in certified engineered fill, as recommended.

9. The structural engineer shall verify the adequacy of the existing footings for underpinning.

10. Footings adjacent to a descending slope steeper than 3:1 in gradient shall be located a distance of one-third the vertical height of the slope but need not exceed 40 feet measured horizontally from the face of the slope; for in-ground pools the footing setback shall be one-sixth the slope height to a maximum of 20 feet. (1806.5.3)(Figure 18-I-1)

11. Permanent building footings in close proximity to the buried cut slope of the landfill pit shall be located at a minimum of 3 feet from the rim of the buried landfill cut slope as recommended, in lieu of the standard setback prescribed by the Building Code. (1806.5.6)

12. Footings supported on approved compacted fill or expansive soil shall be reinforced with a minimum of four (4) ½-inch diameter (#4) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed bear the top. (1804.4)

13. Concrete floor slabs placed on approved compacted fill or expansive soil shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

14. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch-thick fill of coarse aggregate or on a 2-inch sand bed covered moisture barrier membrane. The slabs shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way. (1804.4)

15. Concrete floor slabs placed on uncertified fill shall be designed as structural slabs.

16. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill.

17. If import soils are used, no footings shall be poured until the soil engineer has submitted a compaction report containing in-place shear test data and settlement data to the Department, and obtained approval

18. The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch.

19. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored.

GRADING/SLOPES

20. All new fill slopes shall be no steeper than 2:1. (7011.2)

21. All nonconforming street cut slopes shall be trim-graded back to a slope gradient no steeper than____ or retained by a designed retaining wall.

22. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557; Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density.

LOG#: 45346

23. For grading involving import or export of more than 1000 cubic yards of earth materials within the *grading hillside area*, approval is required by the Board of Building and Safety. Application for approval of the haul route must be filed with the Grading Section. Processing time for application is approximately 8 weeks to hearing plus 10-day appeal period. (7006.7.4)

24. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Department and the Department of Public Works, for any grading work in excess of 200 cu yd. (7007.1)

DRAINAGE

25. All roof and pad drainage shall be conducted to the street in an acceptable manner; water shall not be dispersed on to descending slopes without specific approval from the Grading Section and the consulting geologist and soil engineer. (7013.10)

TEMPORARY EXCAVATIONS/RETAINING WALLS

26. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety.

27. A supplemental report shall be submitted to the Grading Section containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way or adjacent structures.

28. Prior to the issuance of any permit which authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation. (3301.2.1)

29. Unsurcharged temporary excavations may be cut vertical up to a height of **5** feet. Portions of the excavation above this height shall be trimmed to no steeper than **1-1/2:1** (horizontal to vertical), as recommended.

30. Slot cuts using the A -B -C method, shall be no wider than___ feet, no higher than ___ feet, for proposed subterranean parking structure excavations.

31. Suitable arrangements shall be made with the Department of Public Works for the proposed removal of support and/or retaining of slopes adjoining the public way, as applicable.

32. Retaining walls for level or slopping backfill shall be designed for a minimum equivalent fluid pressure as indicated on Table 2 (Lateral Earth Pressure), Page 32 of the report.

33. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device.

34. The recommended equivalent fluid pressure (EFP) for the proposed retaining wall shall apply from the top of the freeboard to the bottom of the wall footing.

35. All retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Installation of the subdrain system shall be inspected and approved by the soil engineer and the City grading/building inspector.

CONSTRUCTION INSPECTION AND REPORTING

36. Prior to the placing of compacted fill, a representative of the consulting soil engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the City Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed with the Department upon completion of the work. The fill shall be placed under the inspection and approval of the soil engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

37. Prior to the pouring of concrete, a representative of the consulting geologist and soil engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the City Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work.

38. The soil engineer and the geologist shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading.

39. Prior to excavation, an initial inspection shall be called at which time sequence of shoring, protection fences and dust and traffic control will be scheduled.

40. Installation of shoring, underpinning, and/or slot cutting excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector.

ADDITIONAL CONDITIONS

LOG#: 45346

41. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit.

42. A registered deputy grading inspector approved by and responsible to the project soils engineer shall be required to provide continuous inspection for any proposed slot-cutting, underpinning, shoring, tie-back, or drilling and installation of deep foundations.

43. Casing or other approved method of pile/caisson installation shall be used where caving soils are present.

44. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up.

45. Slurry/lean concrete shall not be used in the passive bearing portion of soldier piles.

46. Cantilevered shoring with a level backfill shall be designed for a minimum equivalent fluid pressure of ___pcf, plus any surcharge, as recommended.

47. Braced/anchored shoring up to____ft high, as a minimum shall be designed for a trapezoidal earth pressure having a uniform _____ H psf distributed over the central six-tenths, plus any surcharge and water loading, as recommended.

48. Estimated lateral deflection of the tops of soldier piles under design loads shall be presented in a table on the plans. Soldier pile deflections during construction and excavation shall be monitored under the supervision of the soils engineer.

49. The installation and testing of temporary tie-back anchors shall comply with the recommendations included in the report or the Department standard sheets titled "Requirement for Tie-back Earth Anchors"(RR23835), whatever is more restrictive.

50. Soil behind the soldier pile shoring spaced greater than___ft clear, shall be retained with lagging, as recommended. Lagging which may experience long-term soil contact shall be treated for insects and decay.

51. All temporary shoring shall be removed prior to occupancy unless administrative approval from the Department is obtained to abandon based on detailed recommendations and figures by the soils engineer.

52. Basement/restrained walls shall be designed for a minimum trapezoidal pressure having a uniform ____H psf distributed over the central six-tenths, plus any surcharge/water load, as recommended.

53. Prefabricated drainage composites may be only used in addition to traditionally accepted methods of draining retained earth.

54. Special provisions such as flexible or swing joints shall be made for buried utilities and drain lines to allow for differential vertical displacement.

(55) Footings shall be founded entirely in certified compacted fill as recommended.

(56) Continuous / isolated footings allowable bearing pressure shall be **(1,500)** psf, for footings with a minimum of **12/18** inches in width and embedded a minimum of **12** inches into **engineered fill** as recommended.

(57) Allowable vertical foundation pressure, frictional and lateral soil bearing values shall be limited to a maximum one-third increase when considering earthquake or other temporary forces. (1805)

(58) Frictional and lateral resistance of soils may be combined, provided the lateral bearing resistance does not exceed two-thirds of the allowable lateral bearing.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

GEOTECHNICAL ENGINEERING GROUP

GEOTECHNICAL REPORT
CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL)
PROPOSED NORTH RESTROOM RETAINING WALL
12600 W. SHELDON STREET
LOS ANGELES, CALIFORNIA

W.O. NO.: EW40005F
GEO FILE NO.: 03-053
DATE: FEBRUARY 7, 2014

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

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FIGURES

1. Boring Location Map of Boring B-17 from Kleinfelder 2004 Report
2. Boring Location Map of Boring B-27 from Kleinfelder 2004 Report
3. Test Boring Location Map from City of L.A., Standards Division 2004 Report

PLATES

1. Vicinity Map
2. Plan View of Retaining Wall Layout and North Restroom Fill Pad
3. Cross-Section of Retaining Wall and North Restroom Fill Pad

APPENDICES

Appendix A – Selected Borings and Laboratory Data Used for Analyses of Retaining Wall
Appendix B – Building and Safety Documents
Appendix C – Active and Passive Pressure Calculations for Retaining Wall

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

February 7, 2014
File No.: 03-053

GEOTECHNICAL REPORT
CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PROPOSED NORTH RESTROOM RETAINING WALL **W.O. NO.: EW40005F**

1.0 INTRODUCTION

The Geotechnical Engineering Group (GEO) has written this geotechnical report for the proposed retaining wall to support the previously constructed structural fill pad for the North Restroom at Cesar Chavez Park (Sheldon Arleta Landfill). The location is shown on the enclosed Plate 1 Vicinity Map. The proposed retaining wall will be located along Sheldon Street at the fence property line and adjacent to the North Restroom Fill Pad as shown on the enclosed Plate 2 along with a cross-section showing the wall and part of the restroom on Plate 3. The wall will continue east beyond the restroom where it will support the maintenance yard. From our analyses, this will possibly be the most critical condition as the yard will likely stockpile decomposed granite for repaving the walks in the park. The site address is 12600 W. Sheldon Street and the legal description is Tract 14137, Lot 5 with County Reference # MB 287-36/37.

The placement of primary structural fill within the Cesar Chavez Park (Sheldon Arleta Landfill) for the North Restroom Building Pad Foundation was performed during the month of May of 2012. Construction included over-excavating to a depth between 9 and 10 feet with an area of 35 feet wide by 47 feet long. Once the bottom was made and approved, the site soil was compacted as new structural fill to reach an elevation that is close to finish grade. In May of 2012, plans were not available for the exact finish grade of the restroom. Once finish grade is determined, then a small amount of additional cut or fill may be required and then approximately 6 inches of compacted Crushed Miscellaneous Base (CMB) will be placed to reach finish grade. At the present time, it is planned to place a pre-fabricated Restroom Building on top of the compacted CMB once the pad is completed.

The finish grade of the fill pad is slightly higher than what was first proposed on the original grading plan, and the restroom was moved closer to the street to ensure that it is underlain by natural soil. That is when a retaining wall became necessary. The wall is needed to retain the approximately 4 feet high difference in grade between the sidewalk and the restroom floor. The difference in grade tapers off to the east and west, however, the wall will be on the order of 425 feet long.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

1.1 SCOPE OF WORK

During the course of our study, the following tasks were performed:

- Examination of the Compaction Report Data that was prepared on June 8, 2012.
- Review the GEO report for the reconstruction of the landfill cap dated August 27, 2004 which included remolded shear tests of the native soil.
- Preparation of a geotechnical report, that provides geotechnical interpretations of the sub-surface investigation results and provides design and construction recommendations.

2.0 SITE SOIL CONDITIONS

The entire site was explored in 2003 and 2004 for the design of the landfill cap, and proposed park. The findings of that exploration were presented in our dated August 27, 2004 report. That report was approved by the Department of Building and Safety on October 19, 2004, under Log # 45346. A copy of the approval letter is in Appendix B. It was at that time that GEO found that the original planned location for the restroom was underlain by the old landfill and recommended that it be relocated as close as possible to the street.

No new exploration has been undertaken for the restroom, or the proposed retaining wall. We believe that this is unnecessary as the undersigned engineer has been continuously involved with the overall project since 2003, directed the initial exploration and the removal and re-compaction of the fill cap including the structural fill for the restroom. Given the construction records and personal observations, we feel it is unnecessary to undertake any additional exploration for this retaining wall. It should be noted that on Plate 2 there is a line showing the "TRASH FILL LIMIT." This line is based upon GEO staff observations over the past 10 years during the removal and reconstruction of the landfill cap. It should be noted that it is different from the one previously estimated back in 2003 at the start of the project.

From the relative locations of the proposed retaining wall and the known limits of the trash fill shown on Plate 2, it is obvious that the retaining wall will not be underlain by the landfill. The retaining wall, therefore, will be underlain by the natural, dense, well-graded sand that uniformly covers this part of the San Fernando Valley and was encountered in the 2003 and 2004 exploration. Therefore, the information provided in our August 27, 2004 report is applicable and was used to develop the recommendations provided herein.

2.1 GROUNDWATER

Groundwater was not encountered in the 2003 and 2004 exploration, or when excavation for the fill pad was performed. Groundwater is known to be deeper than 50 feet, in fact it is known to be more than 100 feet deep in this part of the valley.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

3.0 LABORATORY TESTING

The following geotechnical/chemical tests were performed on selected samples:

- In-place Dry Density and Field Moisture (ASTM D2937)
- Laboratory Maximum Dry Density and Optimum Moisture Content (ASTM D1557)
- Consolidation (ASTM D2435)
- Direct Shear (ASTM D3080)
- Grain Size Analysis/Hydrometer (ASTM D422)
- Corrosivity Tests

These Laboratory test were performed by Kleinfelder, Inc. for the original report in 2004. At that time, GEO took responsibility for using all of those tests results. The selected tests are presented in Appendix A and are applicable for the subject wall. Also, in the same report, Kleinfelder included subsurface investigation and laboratory testing by the City's Department of General services. This was done so that all of the investigation work could be included in one report. Again, GEO and the undersigned engineer have reviewed the Kleinfelder and General Services subsurface and laboratory data and concur with it and take responsibility for using it. GEO can provide a complete copy of the referenced reports upon request, however, only what is needed for the design of the subject wall is included in Appendix A. Since these reports were submitted to Building & Safety in the past copies of the Department Approval letters are included in Appendix B of this report.

Soil parameters used for design purposes from the testing data are summarized in Table 1, Soil Design Parameters below.

Table 1 – Soil Design Parameters

Material	Dry Unit Weight (pcf)	Cohesion (psf)	Friction (°)
Natural Undisturbed Soil SW Sand	125	100	40
On-Site soil Remolded to 95%	125	100	43
Decomposed Granite stockpile	100	0	34

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONVENTIONAL RETAINING WALL DESIGN

A conventional spread footing retaining wall with a maximum total height of 6 feet may be used for design for supporting the North Restroom Pad Fill. The plans indicate that the retaining wall stem front face will be placed along the property line while the footing will be within the area between the property line and back of curb along Sheldon Street.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

The new retaining wall should be constructed prior to the placement of the prefabricated building segments. This is to prevent excavation adjacent to the slab on grade structure.

The proposed retaining wall shall have new structural fill that extends a minimum of 2 feet below and horizontally beyond the edge of the wall footing. The structural fill shall be completed to the elevation of the lowest adjacent final grade prior to excavating the footing. The reason for the removal and re-compaction requirement is the grading work up to this point has been bounded by the existing site fence. Therefore, building along the fence line the footing may encounter soil that was disturbed by site grading and not properly compacted due to the limitations imposed by the fence.

Due to the lack of embedment of footings for the prefabricated building, the retaining wall may not be closer than 3 feet horizontal to the building. If a retaining wall is built and it is less than 6 feet in total height, it may be designed using values herein for properly compacted dense granular soil. The design plans for the wall shall be submitted to GEO for review and approval prior to excavation of its footing.

Our study of the proposed wall found that while the restroom building may impose a small surcharge on the wall, it is not likely to be the worst case condition. It is our understanding that there will be a paved walk on the north side of the restroom, separating it from the wall. However, there will be no such walk to the east of the restroom where the maintenance yard will be located. In this area, the wall will extend 6 feet above the initial grade to eliminate the need for a fence on that side. Given that the maintenance yard will stockpile loose Decomposed Granite (DG) for the repaving of the walkways, it must be assumed that in the future, the wall will have a stockpile placed against it. Analyses for both conditions were made and copies of the calculations are provided in Appendix C.

In addition to the loading condition analyses discussed above, GEO also ran calculations to determine what the retaining wall footing lengths would be where the wall is next to the building and where the wall would have the DG stockpile area adjacent to it. At the location where the wall would be adjacent to the building, the approximate footing length would be 4 feet and adjacent to the DG stockpile, it would be approximately 8 feet.

Retaining walls shall be constructed in conformance with the Los Angeles City Building Code. It should be noted that not all segmented types of retaining walls are approved for use in the City of Los Angeles. All retaining walls shall be designed for surface and backfill sub-drain systems in accordance with the Building Code. Retaining walls shall be backfilled with free draining granular soil compacted to 90% Relative Compaction.

4.2 DESIGN

4.2.1 Loading Conditions

There are three distinct loading conditions for the proposed wall. Working from west to east, the initial wall will be relatively small and the back slope condition is level ground without surcharge. At the location outside the restroom, the wall will have a minor surcharge from the foundation due to the building setback from the retaining wall. This loading condition is presented on the enclosed Plate 3. To the east of the restroom, the fenced-in maintenance

area will be directly against the wall and it is likely that the freeboard will be used to support supplies. It is anticipated that the heaviest load will come from stockpiled DG. Since there is no plan for the layout of the yard and it may change over time, it is recommended that all of this section of wall be designed for a DG stockpile, including the return wall at the east end of the yard.

4.2.2 Active Presure by Location

Where the wall will support level ground, the wall shall be designed for an active equivalent fluid pressure of 35 pounds per cubic foot (pcf). Where the wall is surcharged by the restroom building and the paved walk, the wall shall be designed for an active equivalent fluid pressure of 40 pcf with an additional building surcharge load of 100 pounds per square foot (psf), starting 3 feet below the top of the paved walk. Beginning at the point directly in line with the east building line of the restroom, the active load shall be increased to 50 pcf of equivalent fluid pressure and the building surcharge is no longer applied. An additional load of 40 pcf shall be applied for every foot of stem wall that is constructed above the yard grade to account for the possible future surcharge. Therefore, the wall loading shall be a triangular loading starting at the top of the stem wall increasing at a rate of 40 pcf per foot and then the rate of increase changes to 50 pcf per foot below the yard grade.

4.2.3 Bearing Capacity

A bearing capacity of 3,000 psf may be used for the design and construction of the new retaining wall. The retaining wall footing shall be founded on new compacted fill. The structural fill shall extend a minimum of 2 feet below the bottom of the footing and extend a minimum of 2 feet beyond the front and back edge of the footing. In the event that the fill removal is deeper than 2 feet below the bottom of the footing, then the excavation for the bottom shall be widened by the same amount that it is deepened. The structural fill shall be entirely from the on-site, well-graded gravelly sand. The fill requirement is that it be tested to ensure that it has a minimum Relative Compaction (RC) of 95% of the Laboratory Maximum Dry Density and be underlain by undisturbed native soil. In the event that it is not well-compacted, then two (2) feet below the bottom of footing shall be excavated. The bottom of the excavation and the removed soil shall be re-compacted within the over-excavation depth at a minimum dry density of 90% RC in lifts not exceeding 6 inches. Given the short height of the wall, the over-excavation requirement is only for the soil directly below the proposed footing. Removals beyond the toe or heel of the footing are not required.

No increase in bearing capacity is allowed for increased depth. However, a 500 psf increase is allowed for an additional foot in width. Any increase in width would result in a similar increase in the width of the removal and re-compaction. The recommended bearing values are for total dead load plus live loads and may be increased by one-third for seismic, or other transient loading conditions. The recommended net allowable bearing pressure includes the effects of footing depth and shape. For non-surcharged walls up to 4 1/2 feet in total height, the minimum footing width shall be 12 inches and minimum footing depth shall be 18 inches below finish grade. For non-surcharged walls where the difference in grade is 2 feet or less, then a Type "A" Standard Plan Curb may be used, provided it is poured against structural fill at least 10 inches thick. Where the wall is surcharged by building or possible future stockpile load, the minimum footing width shall be 30 inches and minimum footing depth shall be 24 inches below

1 0 6

the lowest adjacent finish grade, and supported by new structural fill as described above. For these conditions, the total settlement and differential settlement of the retaining wall are estimated not to exceed 0.5 inch and 0.25 inch, respectively.

4.2.4 Passive Pressures

The allowable passive resistance for shallow continuous footings founded in new structural fill may be assumed to be 400 pcf per foot of depth to a maximum of 3,600 psf. A one third increase in allowable passive resistance may be used when considering wind or seismic loads.

4.2.5 Friction Factor

A coefficient of friction of 0.5 in soil is recommended for the friction against the concrete footing. A Factor of Safety (FS) of 1.5 was used to calculate the coefficient of friction.

4.3 CONSTRUCTION

4.3.1 Fill Material

All fill and backfill material shall be generated from on-site soil which is predominantly granular (at least 50 percent retained on the No. 200 sieve) and meet all other requirements in the SSPWC for backfill. All fill and backfill materials shall be observed and tested by the Geotechnical Engineer. In the event that it is proposed to use imported soil, the borrow site shall first be inspected by the Geotechnical Engineer and tested prior to its import. Approval typically takes at least three (3) working days; therefore, at least that much advance notice is required to facilitate scheduling. All on-site and imported fill shall be cleaned of organics, hazardous materials, and debris larger than 6 inches before replacement as backfill. Imported fill shall meet or exceed the minimum design criteria of the on-site soil as indicated in Table 2 below.

Table 2 – Minimum Compacted Fill Soil Design Parameters

Material	Dry Unit Weight (pcf)	Cohesion (psf)	Friction (°)
Silty Sand to Sandy Gravel on-site soil Fill 95% RC	125	100	43

4.3.2 Retaining Wall Structural Fill and Backfill

All backfill shall be placed in conformance with Section 306-1.3.1 through Section 306-1.3.2 of the SSPWC, 2003 edition, except as modified herein. Backfill shall be placed in loose level lifts not exceeding 8 inches in thickness. The backfill for the retaining wall and elsewhere shall be mechanically compacted to at least 90 percent of the maximum obtainable dry density per the ASTM D-1557 Standard Method of compaction. Structural fill shall be compacted to the same standards, except the minimum requirement is 95%. Fill placed below the lowest adjacent final grade shall be compacted to the structural fill requirement. Backfill shall be tested by a certified testing agency for adequacy.

Imported pervious backfill material shall be predominately granular (at least 50% retained on the No. 200 sieve) and meet all other requirements herein and in the SSPWC for backfill.

Access to the retaining walls shall be completely open and if fencing is required for the security of the park, then temporary fencing shall be installed far enough from the excavation to allow for earthmoving and compaction equipment to move over the site unimpeded.

4.3.3 Temporary Excavation

Temporary excavations shall not exceed a 1:1 (H:V, 45 degree) slope. Due to the granular nature of the soil, the only vertical cuts allowed are the footing excavations in the new structural fill after it has been tested by the engineer, and approved by the Department of Building and Safety. In the event that there is a narrow gap between the new wall and the back cut that prevents the use of compaction equipment, the small space behind the new retaining wall shall be backfilled with 3/8" pea gravel except for the top portion that is 2 feet below the final grade. The top shall be filled using native soil compacted in 6 inch lifts as described above. Where the area between the wall and the excavation exceeds 18 inches, the gravel must be vibrated and tested for compaction. When gravel is used, a filter fabric shall be used to wrap the gravel, keeping the gravel separated from the bedrock and compacted soil.

GEO requires a non-woven geo-fabric to be wrapped around any clean gravel layer or pocket that is used in the backfill. The geo-fabric shall be placed fuzzy side out around the gravel and have at least the following the attributes:

- Density: 6 ounces per square yard
- Grab Tensile Strength (ASTM D- 4632): 120 pounds
- Grab Tensile Elongation (ASTM D- 4632): 50%, minimum
- Trapezoidal Tear Strength (ASTM D- 4355): 50 pounds

The upper 2 feet of backfill above the gravel should consist of a compacted soil fill blanket. GEO shall approve the import soil at the site prior to hauling of the backfill to the work site. At least 3 working days of advanced notice is required for laboratory testing. All soil used for backfill shall be cleaned of organics, hazardous materials, and debris larger than 6 inches before replacement as backfill. To avoid introduction of water pressure to the retaining wall, jetting of backfill is not allowed. Flooding shall not be allowed under any circumstances.

4.3.4 Weep Holes or Subdrain

Backfill shall be adequately drained to prevent hydrostatic pressure build-up behind the retaining wall.

Option 1: Weep Holes

The first method of providing drainage behind the retaining wall shall be placing filter fabric and then a 4" diameter PVC perforated pipe adjacent to the wall and connecting each weep hole to the pipe with PVC tees. The weep holes shall consist of 4" diameter PVC pipes spaced no greater than 8 feet on center. Next, 3/8" pea gravel shall be placed around the pipe at a rate of 1 cubic foot per lineal foot, covering the pipe assembly. After this, the filter fabric shall be securely wrapped around the pipe and pea gravel.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

Option 2: Sub-Drain System

The second method of providing drainage behind the retaining wall shall be to use a horizontal sub-drain on top of the footing. A 4" PVC slotted sub-drain, surrounded by one cubic foot per linear foot of 3/8" pea gravel wrapped in filter fabric, shall be used to collect the water drainage behind the retaining wall. An outlet for the sub-drain system shall be located at the lowest elevation of the retaining wall and through the wall face.

GEO requires a non-woven geo-fabric to be wrapped around the pea gravel. The geo-fabric shall be placed fuzzy side out around the gravel and have at least the following the attributes:

- Density: 6 ounces per square yard
- Grab Tensile Strength (ASTM D- 4632): 120 pounds
- Grab Tensile Elongation (ASTM D- 4632): 50%, minimum
- Trapezoidal Tear Strength (ASTM D- 4355): 50 pounds

4.3.5 Inspection

A representative from GEO shall inspect and approve all imported backfill material prior to its placement as backfill, approve the sub-grade beneath all fills, and all fill placement.

4.3.6 Structural Fill

The contractor shall allow 2 to 3 weeks after the initial grading is complete for the structural fill to be approved by the Department of Building and Safety. In any event no footing work shall begin until the Department of Building and Safety has issued an approval for the structural fill.

5.0 PLAN REVIEW

The final grading and foundation plans and specifications should implement the recommendations presented in this report and should be reviewed by GEO.

6.0 ADDITIONAL SERVICES

The construction process is an integral design component with respect to the geotechnical aspects of a project. Proper geotechnical observation and testing during construction is

1 0 6

6.0 ADDITIONAL SERVICES

The construction process is an integral design component with respect to the geotechnical aspects of a project. Proper geotechnical observation and testing during construction is imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, the Geotechnical Engineer of Record shall be involved during the construction of the proposed development to observe compliance with the design concepts and geotechnical recommendations.

If there are any questions regarding this report, please contact Theo Seeley at (213) 847-0534.

REGISTERED PROFESSIONAL ENGINEER
THEO ROBERT SEELEY
No. GE 2079
Exp. 9-30-2015
GEOTECHNICAL
STATE OF CALIFORNIA

Theo R Seeley 2-7-14

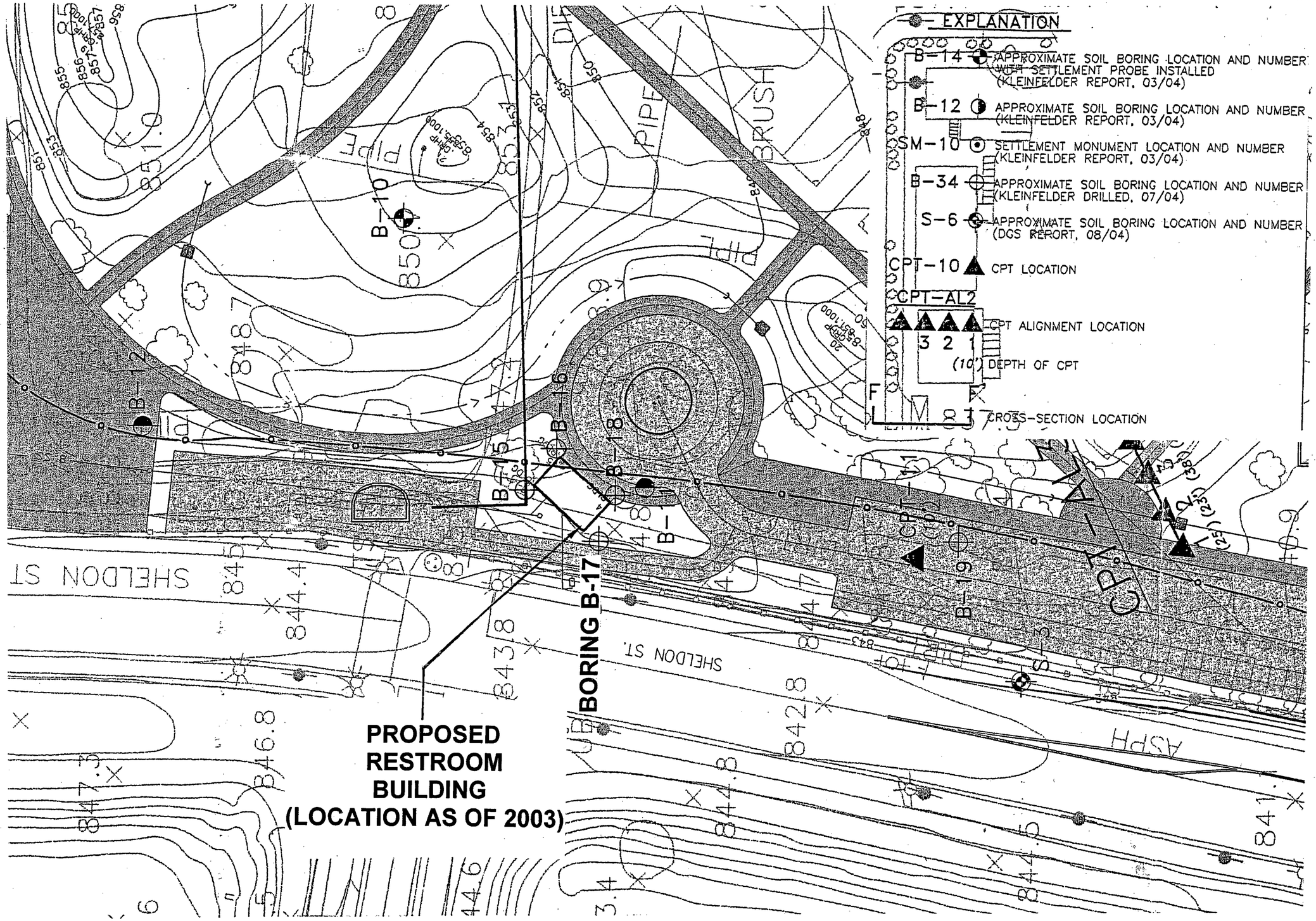
Theo R. Seeley, G.E. 2079
Geotechnical Engineer II

Q:\PROJECTS\2003\03-053 Cesar Chavez Park North Restroom Proposed Retaining Wall\Geotechnical Report 2-7-14.doc

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

FIGURES

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7



Cesar Chavez Park (Sheldon Arleta Landfill) 12600 W. Sheldon Street Boring Location Map of Boring B-17 From Kleinfelder 2004 Report	January 28, 2014 File No.: 03-053 W.O. No.: W40005F	Figure 1

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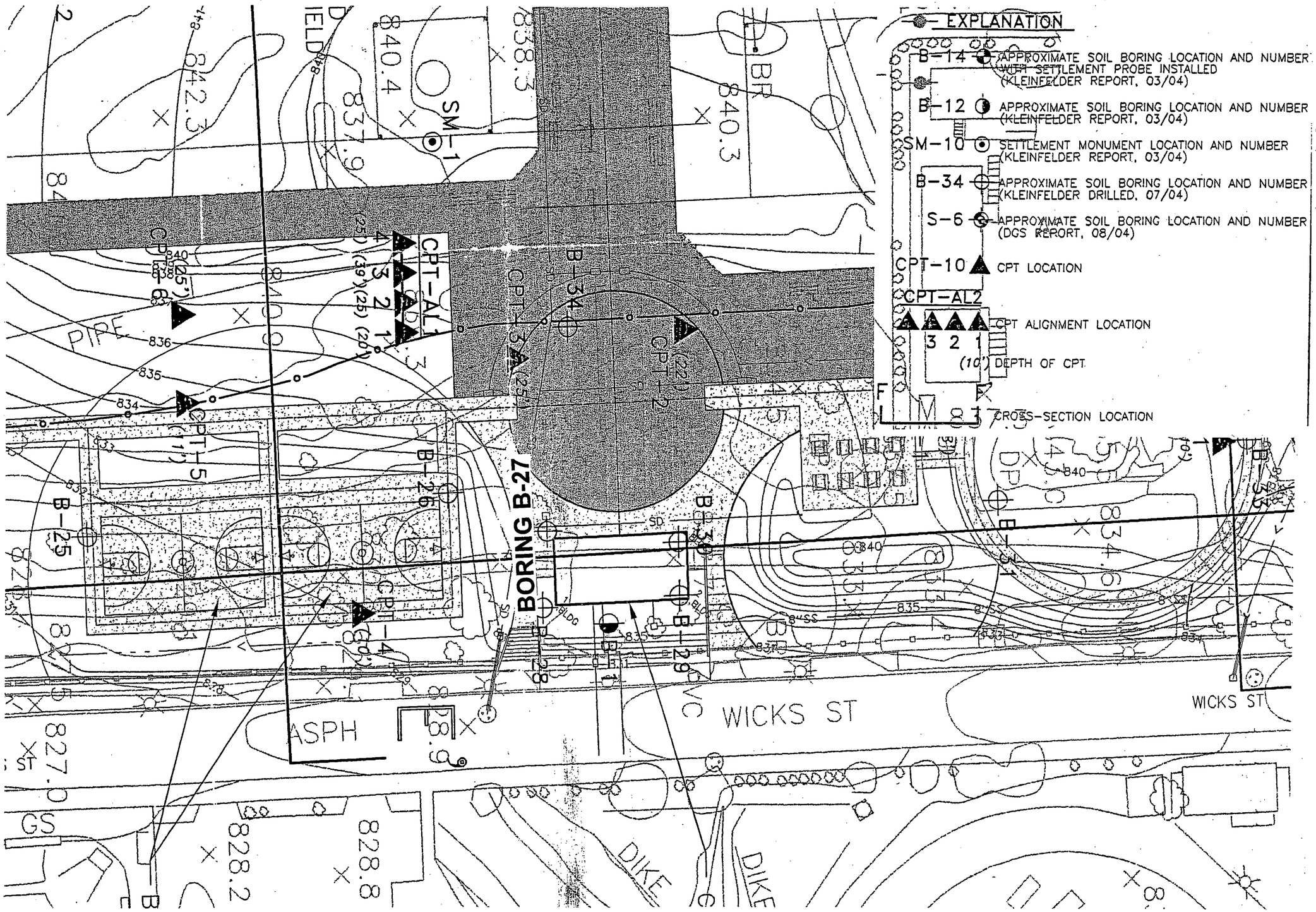

Cesar Chavez Park (Sheldon Arleta Landfill) 12600 W. Sheldon Street Boring Location Map of Boring B-27 From Kleinfelder 2004 Report	January 28, 2014 File No.: 03-053 W.O. No.: W40005F	Figure 2

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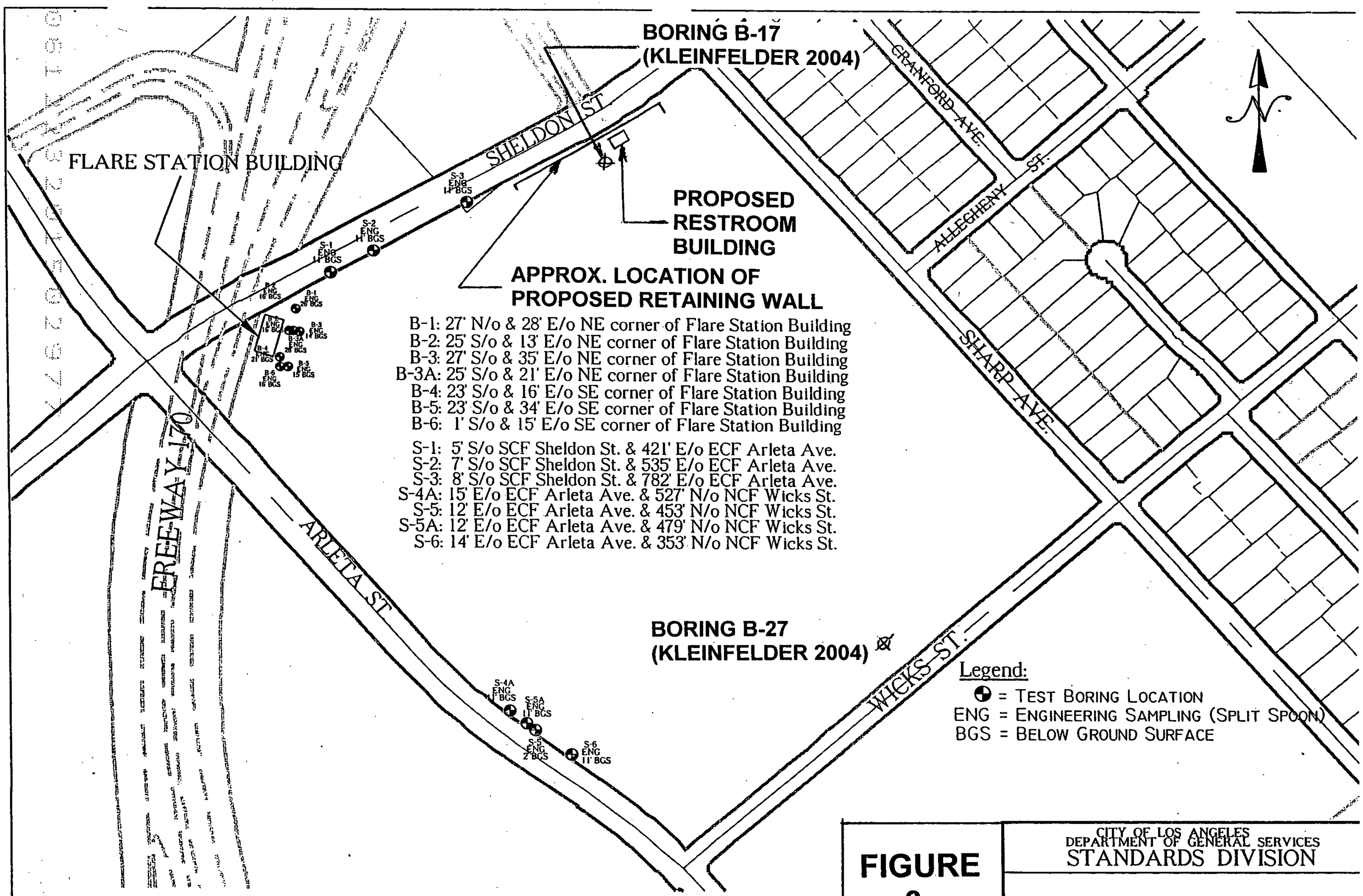
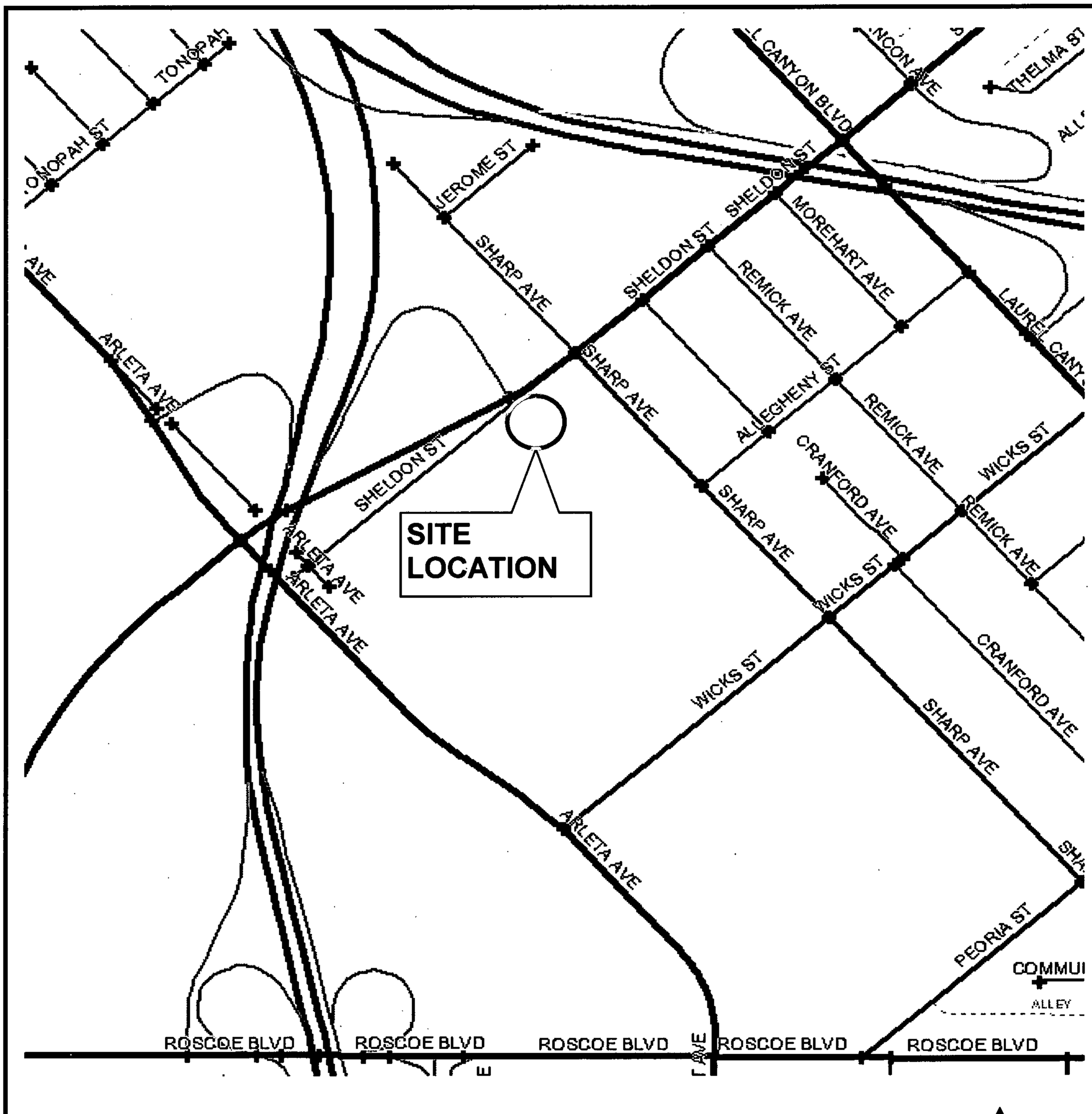


FIGURE 3

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

TEST BORING LOCATIONS

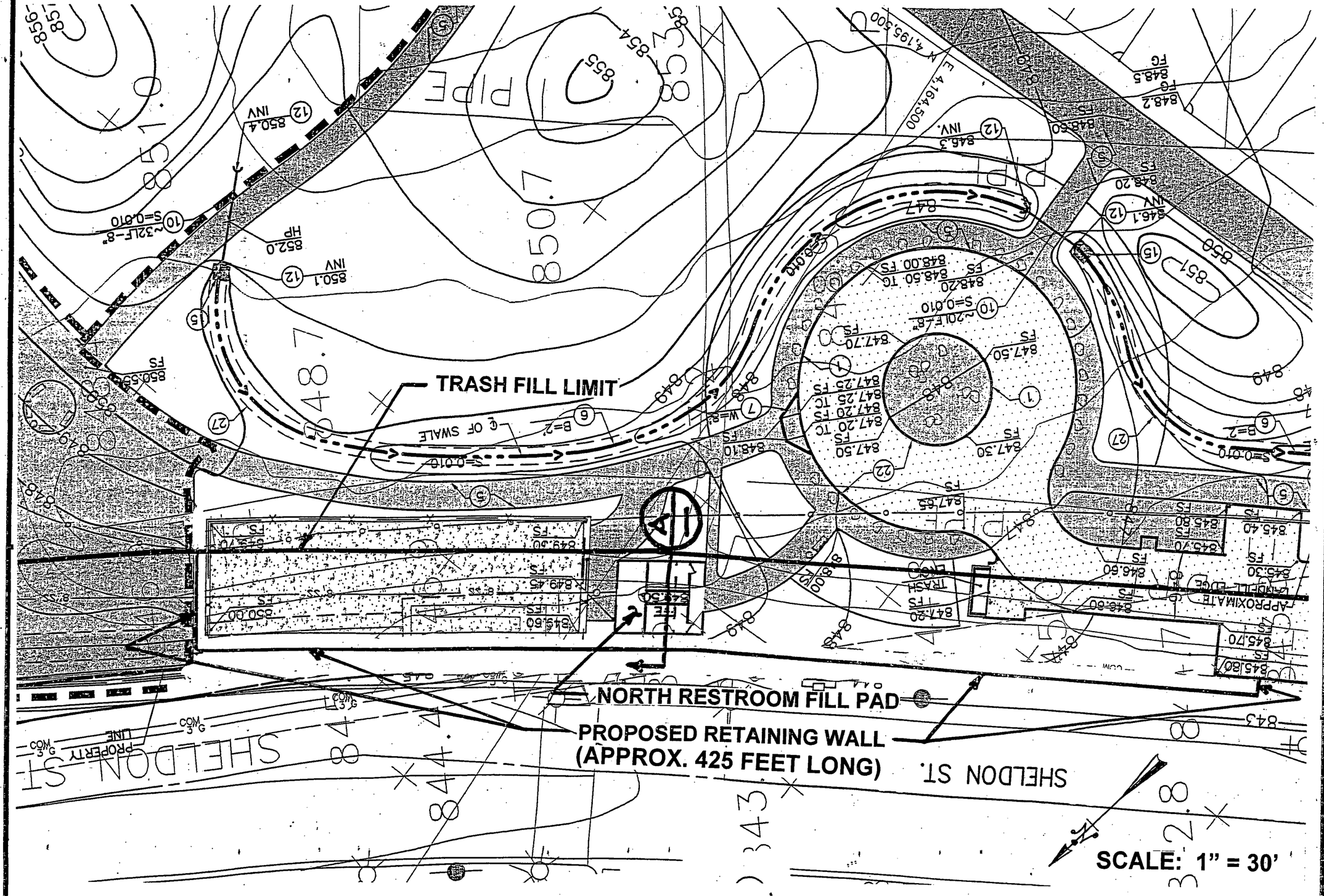
Project Title: SHELDON - ARLETA LANDFILL STREET WIDENING AND FLARE SITE	W.O. No.: E1700500	Lab. No.: 140-5358	CAD by: NavigateLA	Checked by: JV/PCL
		Date: 08-10-04	Approx. Scale: 1" to 300'	Sheet: 1 of 1



VICINITY MAP

Not To Scale

CESAR CHAVEZ PARK **SHELDON ARLETA LANDFILL** **12600 SHELDON STREET**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING GROUP (GEO) FIELD INVESTIGATION NO.: 03-053 DATE: JANUARY 28, 2014	PLATE 1



Cesar Chavez Park (Sheldon Arleta Landfill) 12600 W. Sheldon Street Plan View of Retaining Wall Layout and North Restroom Fill Pad	January 28, 2014 File No.: 03-053 W.O. No.: EW40005F	Plate 2

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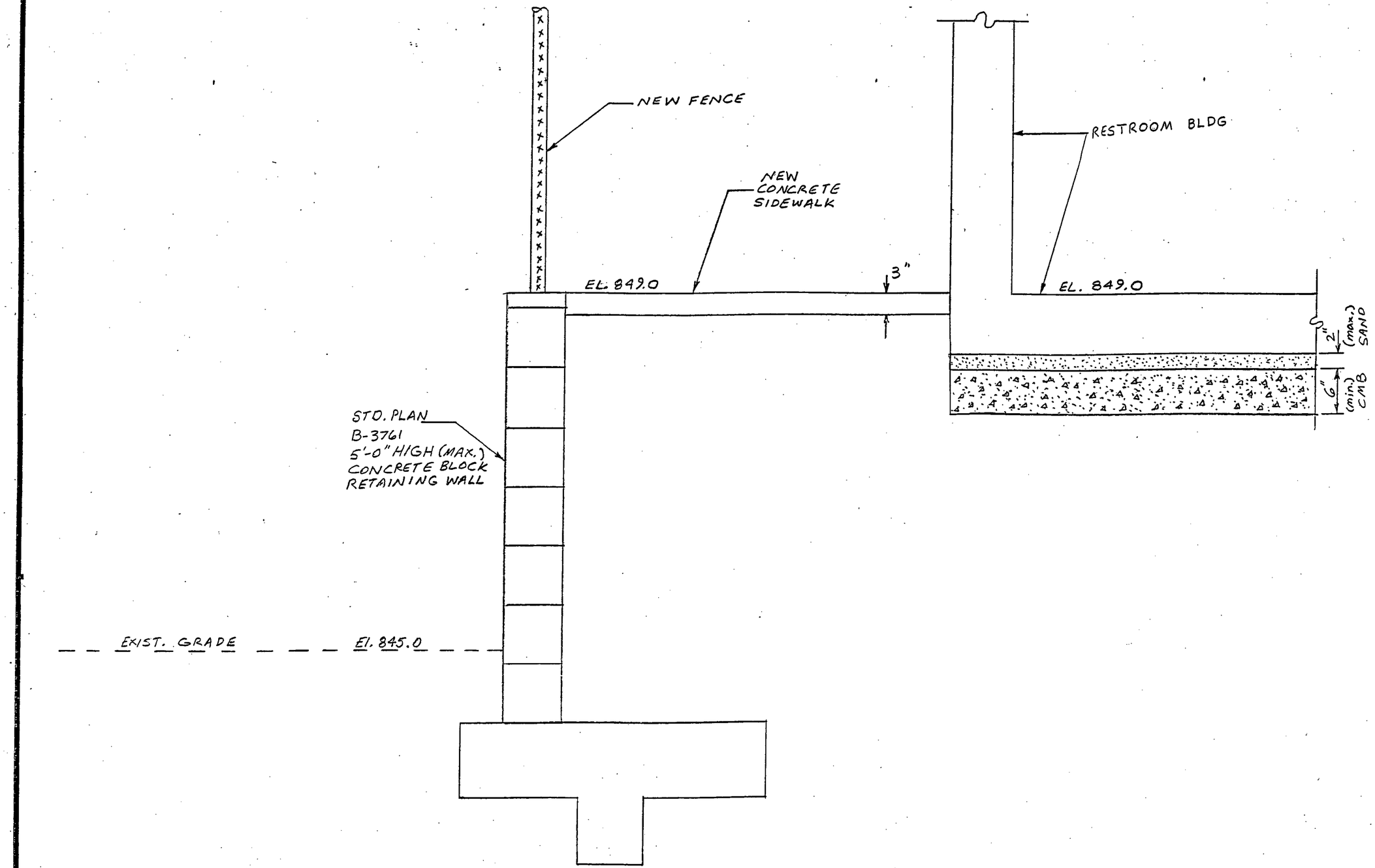

TYPICAL SECTION (A)
Scale: 1" = 1'-0"

Cesar Chavez Park (Sheldon Arleta Landfill) 12600 W. Sheldon Street Cross-Section "A" of Retaining Wall and North Restroom Fill Pad	January 28, 2014 File No.: 03-053 W.O. No.: EW40005F	Plate 3

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APPENDIX A

(Selected Borings and Laboratory Data Used for Analyses of Retaining Wall)

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

APPENDIX C
GEOTECHNICAL LABORATORY TESTING FOR BORINGS B-15 THROUGH B-34

This Appendix presents the results of geotechnical laboratory tests on soil samples from Borings B-15 through B-34. The laboratory tests were performed on representative intact and bulk soil samples to estimate engineering characteristics of the various earth materials encountered. Testing was performed in accordance with one of the following references:

1) Lambe, T. William, Soil Testing for Engineers, Wiley, New York, 1951

2) Laboratory Soils Testing, U.S. Army, Office of the Chief of Engineers, Engineering Manual No. 1110-2-1906, November 30, 1970

3) ASTM Standards for Soil Testing, latest revisions

4) Uniform Building Code, 1997 edition

LABORATORY MOISTURE AND UNIT WEIGHT DETERMINATIONS

Natural moisture content and dry unit weight tests were performed on soil samples collected from the borings in accordance with ASTM D2216-92 and D2937-94, respectively. The results are presented on the Logs of Borings and are summarized in Table C-1, Moisture Content and Dry Unit Weight.

WASH SIEVE

The percent passing #200 sieve of five (5) selected soil samples were performed by wash sieving in accordance with ASTM Standard Test Method D 1140-92. The test results are summarized in Table C-2, Wash Sieve Test Results.

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1 0 8 1 2 2 3 2 0 1 5 0 2 9 7 7

SIEVE ANALYSES

Sieve analysis was performed on two (2) samples of the materials encountered at the site to evaluate the grain size distribution characteristics of the soils and to aid in their classification. The tests were performed in general accordance with ASTM Test Method D 422. The results of these tests are presented on Plate C-1, Grain Size Distribution.

HYDROMETER

Hydrometer testing was performed on one selected soil sample to evaluate the gradation characteristics of the fine grain soils passing the #200 sieve, and to aid in the classification of the soil. The test was performed in general accordance with ASTM Test Method D 422. Results of the test are presented on Plate C-1, Grain Size Distribution.

DIRECT SHEAR

Direct shear tests were conducted on four (4) remolded soil samples and one (1) relatively undisturbed sample in accordance with ASTM Standard Test Method D 3080-90 to evaluate the shear strength parameters of the materials. The remolded samples were compacted to approximately 95 percent relative compaction at a moisture content near the optimum moisture content. Prior to shearing, the samples were soaked with water to saturation or near saturation moisture contents. The in-situ dry density and moisture content of the relatively undisturbed sample is presented in Table C-1 and on the boring logs. The test results are presented on Plates C-2 through C-6, Direct Shear Test.

CONSOLIDATION

Consolidation tests were performed on two (2) selected relatively undisturbed samples and one (1) remolded sample. The remolded sample was compacted to approximately 95 percent relative compaction at a moisture content near the optimum moisture content. The tests were performed in general accordance with ASTM Standard Test Method D 2435. The relatively undisturbed samples were each inundated with water at an axial load of 2 ksf to evaluate the results of saturation on the selected samples. The test results are presented on Plates C-7 through C-9, Consolidation Test.

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1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CORROSIVITY TESTS

A series of chemical tests were performed on three (3) selected samples collected from a depth between approximately 0 to 3 feet below the existing grade to estimate pH, resistivity, and sulfate and chloride contents. The test results shall be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to the construction materials. The results of the tests are presented in Table C-3, Corrosion Test Results.

MAXIMUM DRY DENSITY

Maximum dry density testing was performed on eight (8) selected samples of the near-surface soils encountered at the site. The tests were performed in general accordance with ASTM Standard Test Method D 1557. The test results are presented on Table C-4, Maximum Dry Density and Optimum Moisture Content, and on Plates C-10 through C-17, Compaction Diagram.

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1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

Date Drilled: 7/13/04
Drilled By: Prosonic Corporation
Drilling Method: Hollow Stem Auger 8"
Logged By: L. Roebuck

Water Depth: >20.0 feet
Date Measured: 7/13/04
Approximate Elevation: 834.0 feet
Reference Datum: MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
845		B-17 0-2			**SANDY GRAVEL (GM):** brown, damp, fine -coarse gravel with fine-coarse sand, non-cohesive ND VOC, 0% LEL, ND H2S ...very dense			MAX
		B-17 2.5	58			124	2.5	WA
5		B-17 5	-		...same as above	117	2.2	DS
840		B-17 7.5	42		**SAND WITH GRAVEL(SP):** olive brown, damp, dense, fine-medium, trace-some coarse, trace fine gravel, trace fines, non-cohesive, 0 ppm VOC, 0% LEL	118	2.4	
10		B-17 10	52		--- olive gray, moist, dense, less gravel, ND VOC, 0% LEL, ND H2S.	116	2.3	
835								
15		B-17 15	>50		light olive gray, increasing coarse gradiation, some fine-medium gravel, 0 ppm VOC, 0% LEL	107	1.7	
830								
20		B-17 20	79		**POORLY GRADED GRAVEL (GP):** light gray, damp, dense, fine -coarse gravel with small cobbles, some fine-coarse sand, non-cohesive ND VOC, 0% LEL, ND H2S End of boring at 20 feet bgs groundwater not encountered fill to 8 feet bgs boring backfilled with cuttings	-	-	

Location of Boring:
Degrees, minutes, seconds,
34, 13, 43.9 N
118, 24, 25.1 W

Location obtained with consumer quality hand held GPS device.
Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-17

PLATE
A-28 .

1 0 6 1 2 2 3 2 0 1 5 0 2 5 7 7

Explanation To Logs On Plate A-1

Date Drilled:	7/14/04	Water Depth:	>20.0 feet
Drilled By:	Prosonic Corporation	Date Measured:	01/21/2004
Drilling Method:	Hollow Stem Auger 8"	Approximate Elevation:	845.5 feet
Logged By:	L. Roebuck	Reference Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Unit Weight (pcf)	Moisture Content (%)	Additional Tests PID (ppm)
830		B-27 0-2			**SILTY SAND (SM):** light brown, dry, loose, fine to medium grained, some coarse sand, some fine-coarse gravel, trace cobbles, ND VOC, 0% LEL, ND H2S	-	-	MAX, DS
		B-27 2.5	16					
5		B-27 -5	18		NATIVE: (Qal) **SAND (SP):** light gray, dry-damp, medium dense, fine-medium, some coarse, some fine-coarse gravel, trace cobble, no fines, 0 ppm VOC, 0%LEL	96	1.5	CN
825		B-27 -7.5	20		...same as above, dry-damp, ND VOC, 0% LEL, ND H2S	-	1.3	
10		B-27 -10	48		dry, medium-dense, fine-medium, some coarse, some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL	-	-	
820					...dense			
15		B-27 -15	17		dry, medium-dense, fine-medium, some coarse, some fine-medium gravel, trace-some fines, 0 ppm VOC, 0%LEL	-	3.5	
815								
20		B-27 -20	73		...light brownish gray, increase in coarse sand and gravel, 0 ppm VOC, 0%LEL	-	-	
					End of boring at 20 feet bgs no trash encountered fill to 3 feet bgs boring backfilled with cuttings			
					Location of Boring: Degrees, minutes, seconds, 34, 13, 31.9 N 118, 24, 17.9 W			
					Location obtained with consumer quality hand held GPS device. Elevations interpolated from topographic map provided by the City of Los Angeles prepared by Advanced Digital Maps, dated 1/19/2004.			

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

LOG OF BORING B-27

PLATE

A-38

1 0 6 1 2 2 3 2 0 1 5 0 2 5 7 7

Explanation To Logs On Plate A-1

Table C-2
Wash Sieve Test Results

Boring	Depth (ft)	Percent Passing No. 200 (0.075 mm)
B-17	2.5	8
B-18	2.5	46
B-29	2.5	30
B-30	7.5	11
B-31	7.5	4

Table C-3
Corrosion Test Results

Boring	Depth (ft)	pH	Sulfate (ppm)	Chloride (ppm)	Resistivity (Ω-cm)
B-17	0 – 2	7.86	13	128	1200
B-21	0 – 2	7.90	20	134	3100
B-30	0 - 3	7.93	4	62	5700

Table C-4
Maximum Dry Density and Optimum Moisture Content

Boring	Depth (feet)	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)
B-17	0 – 2	141.5	6.0
B-18	0 – 2	124.5	8.5
B-21	0 – 2	126.0	10.5
B-26	0 – 2	134.0	7.0
B-27	0 – 3	123.0	9.0
B-28	0 – 2	123.0	8.0
B-29	0 – 3	134.0	7.0
B-34	0 – 2	118.0	10.0

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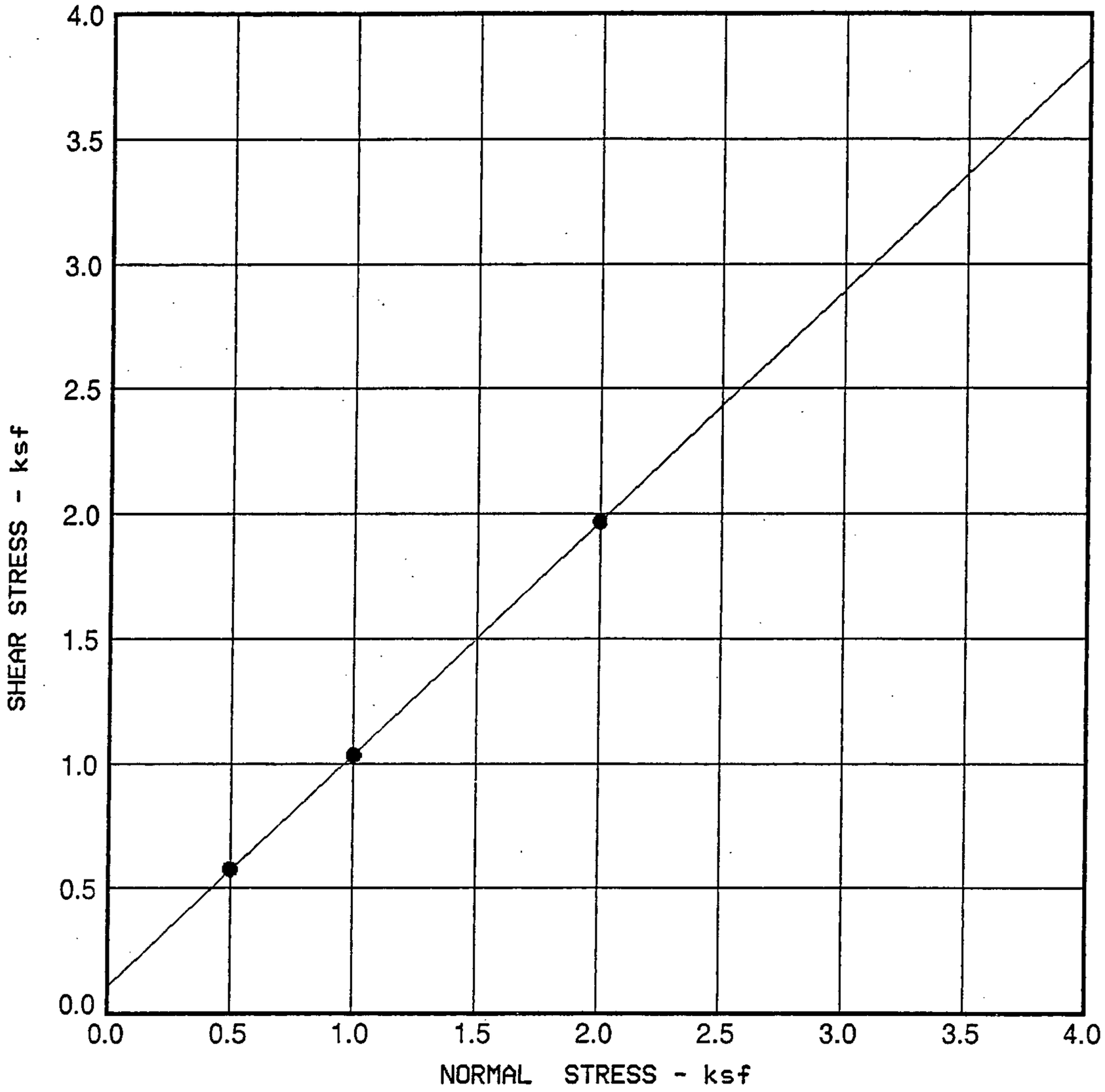


Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	500	1000	2000
Ultimate Shear - psf	576	1032	1968
	-	-	-

Sample	B-27 *
Depth - ft	0 - 2
Friction Angle - deg	43
Cohesion - ksf	0.11
Description	Silty Sand
Classification	SM

*Sample remolded and compacted to 95% of Maximum Dry Unit Weight
Maximum Dry Unit Wt.= 123.0 pcf; Optimum Moisture Content = 9.0 %
Test Sample: Dry Unit Wt.= 116.9 pcf, Moisture Content = 8.9 %
Moisture Content After Test = 14.8 %

KLEINFELDER

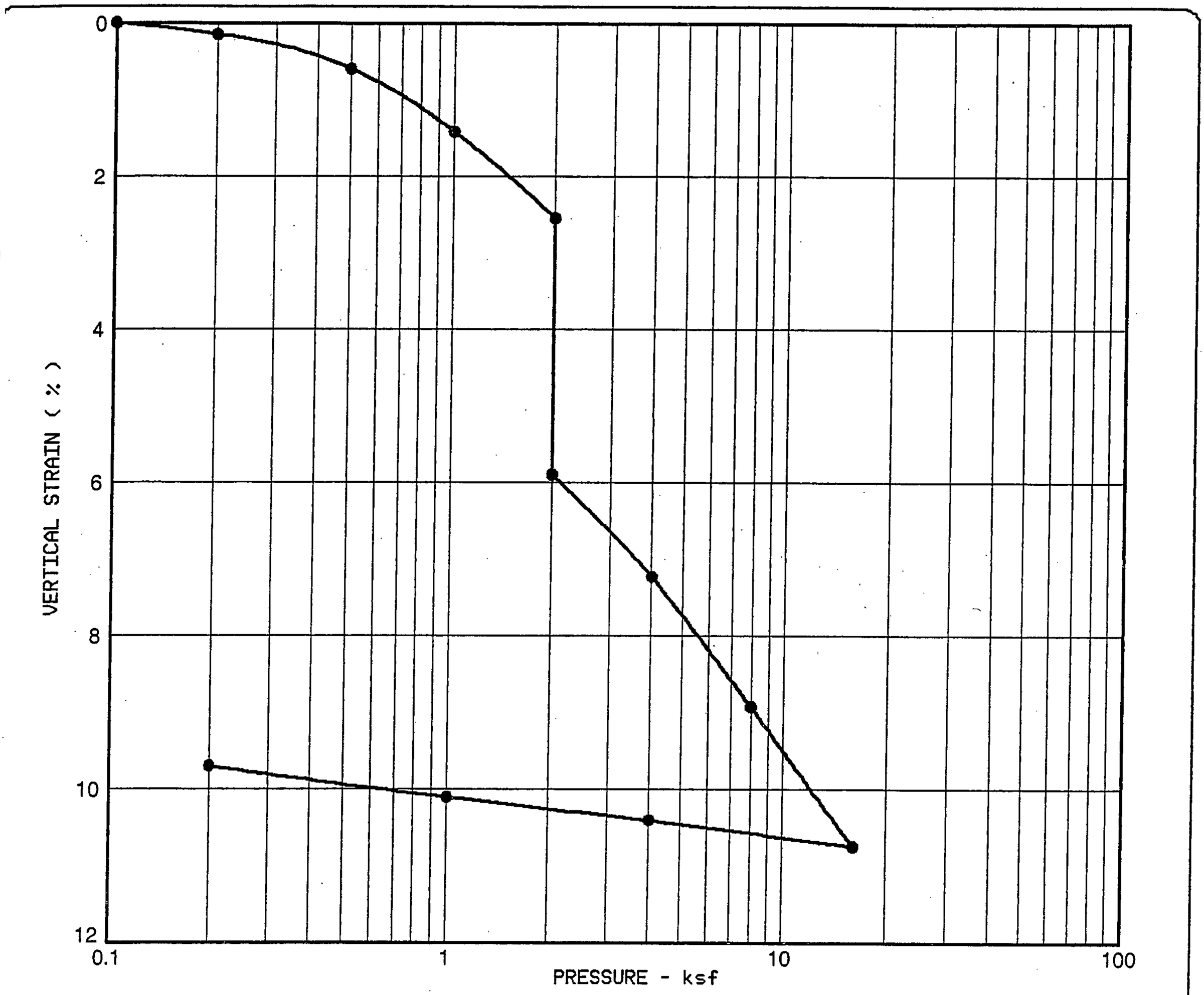
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

DIRECT SHEAR TEST

PLATE

C-4



Sample	B-27
Depth	5.0 ft
Description	Sand
Classification	SP
Compression Ratio	0.043
Recompression Ratio	0.005

Moisture Content Before = 1.5 %
Moisture Content After = 20.6 %
Initial Dry Unit Weight = 96 pcf

KLEINFELDER

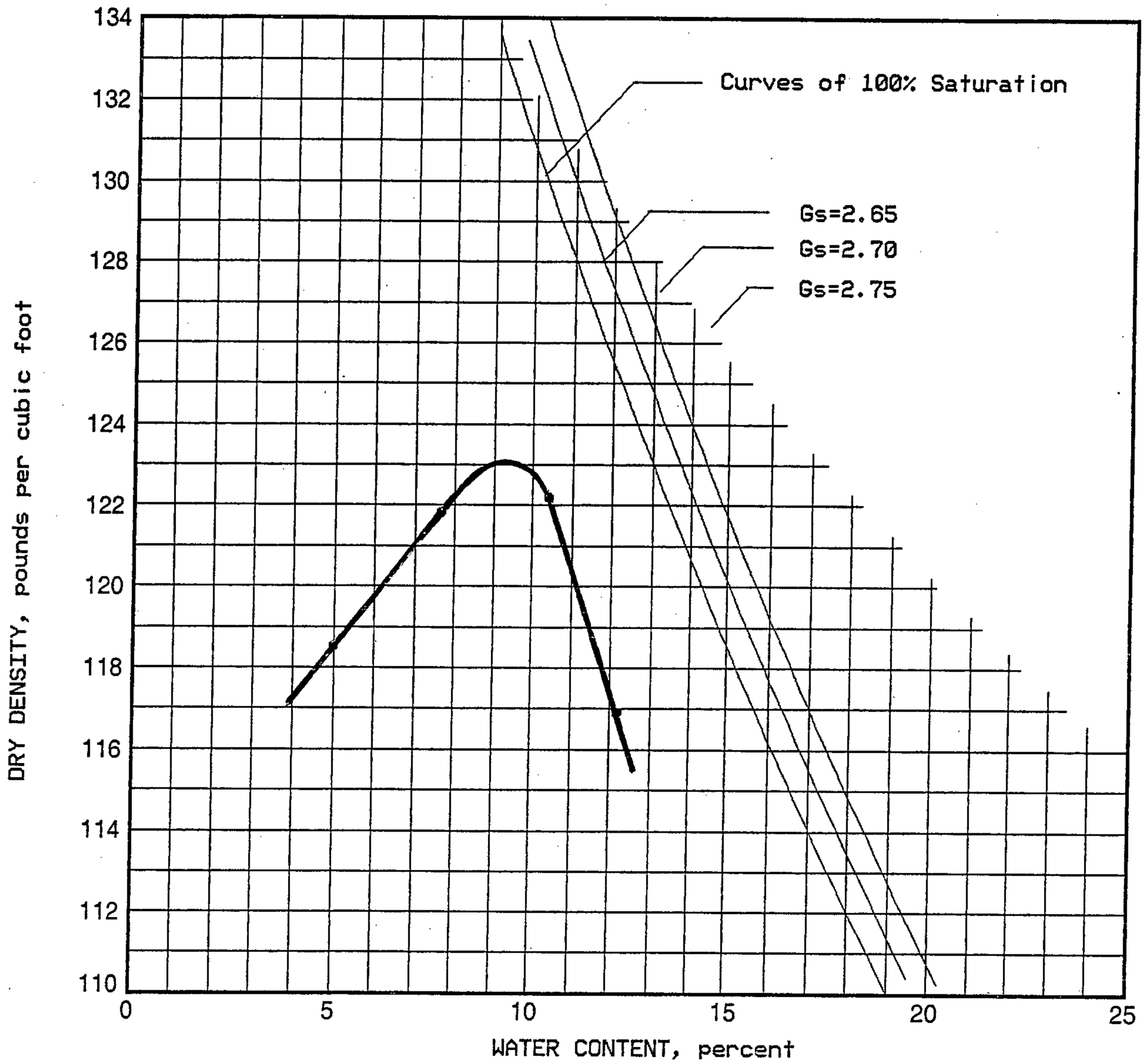
PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

CONSOLIDATION TEST

PLATE

C-8



TEST DESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "A"

Sample	B-27
Depth	0 - 3
Soil Type	Silty Sand
Classification	SM
Maximum Dry Density	123.0 pcf
Optimum Water Content	9.0 %

KLEINFELDER

PROJECT NO. 46824

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-14

LOG OF TEST BORING

LAB. NO.: 140- 5358 **PROJECT:** SHELDON - ARLETA LANDFILL

BORING NO.: B-2 **ELEVATION:** 834.5' **DRILLING DATE:** 06/29/2004

BORING LOCATION: 25' N/o and 13' E/o NE/Corner of Flare Station Building

DRILL RIG TYPE: CME-75HT using 8" hollow stem augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Adams **LOGGER:** Roth **ENGINEER:** Guzman

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	LEL (%)	OVA (PPM)	USCS	Field Description	Moist. %	Dry Dens. Pcf
830 / 0	12/6 10/6	0	1.5		FILL MATERIAL - Brown silty fine sand with a trace of gravel. Moist and dense. Bulk soil sample taken from 0 to 2½' depth. Encountered AC fragments @ 3' depth.	5.3	123
825 / 5	5/6 8/6	0	0	SW-SM	Grayish brown well-graded fine-medium sand with gravel. Moist and dense.	1.2	126
	8/6 7/6	0			Split spoon sample was not recovered at 7½" depth.		
820 / 10	10/6 11/6	0	0			3.7	113
815 / 15	14/6 13/6	0	0				

					No free water.		

					Test Boring Location Coordinates: 34° 13' 39.59" N 118° 24' 36.58" W		
810 / 20							
805 / 25							
800 / 30							
795 / 35							

CITY OF LOS ANGELES - STANDARDS DIVISION

Lab. No.: 140-5358

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242

SHEAR DIAGRAM

Job Title: SHELDON/ARLETA LANDFIL

W.O. No: E1700500

LEGEND	Boring NO.	DEPTH (feet)	IN-PLACE DRY DENSITY (pcf)	MOISTURE % START	MOISTURE % END	NOTES
○	B-2	10'	112.5	3.7%	15.8%	NOTE: Hollow symbols as shown in the LEGEND are shear stress values at the final strain reading of 0.200 inch. Peak shear stress values are represented by solid symbols, for example: ●.

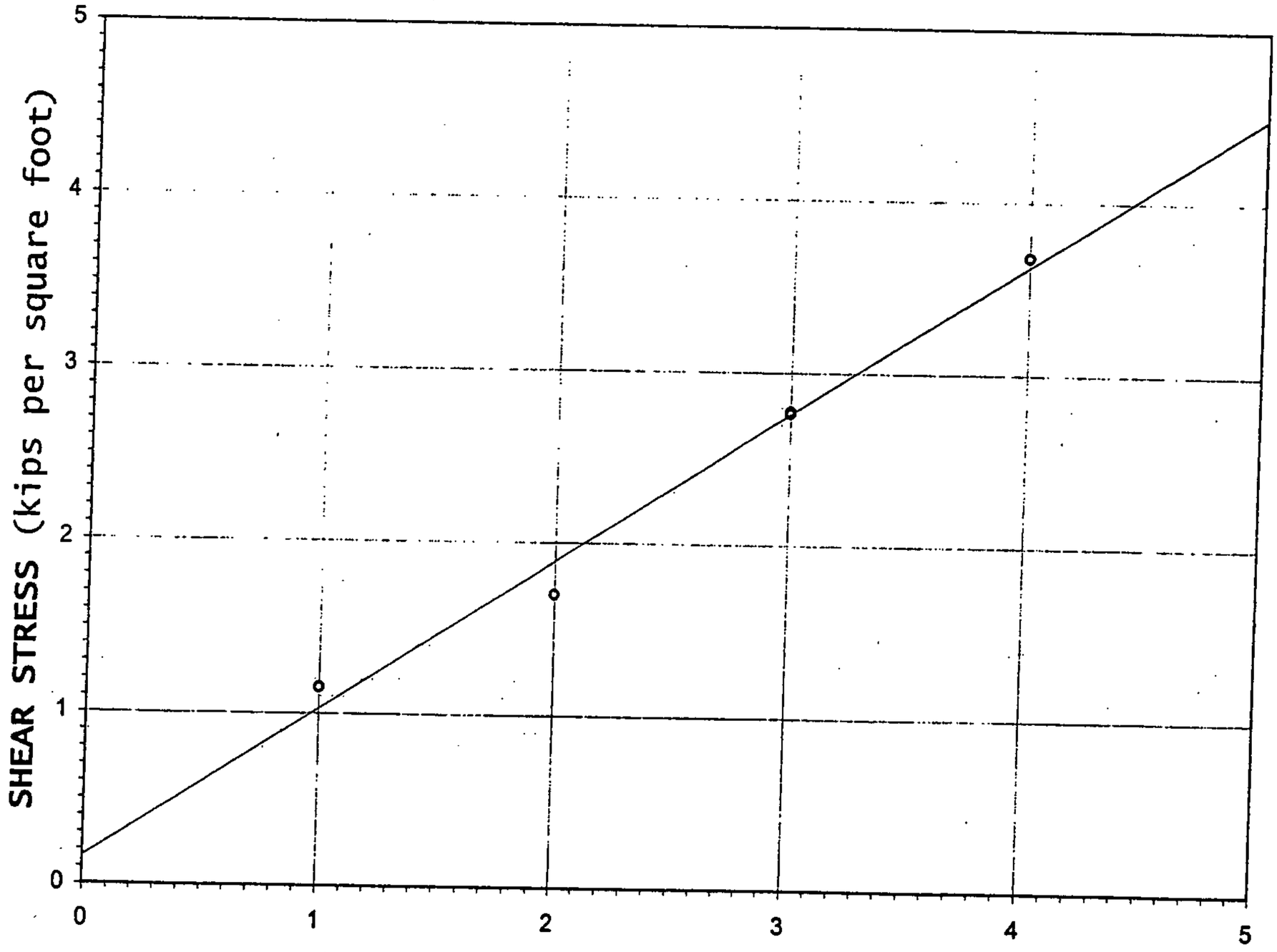


Figure S-1

	●	○
ϕ	40.91°	40.88°
c	0.160	0.160

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

Form GS/STD 911

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
FAX (213) 485-5075

Standards Lab No.: 05-00049 -01A to -02A
Date Received: August 3, 2004
Date Reported: August 5, 2004

Bureau of Engineering
Geotechnical Services Division
W.O. # E1700500

To: File Copy

cc: Javad Valleie

SOIL LEACH TEST: Sheldon/Arleta Landfill
CHEMLAB ANALYSIS REPORT

At the request of the Geotechnical Services Division, two soil samples taken from the Sheldon/Arleta Landfill were analyzed on August 4, 2004 for chlorides, sulfates, pH, conductivity and acidity, if applicable.

A 1:3 ratio of gram soil sample to volume water were leached for 24 hours. The 24-hour water leachate were analyzed in accordance with EPA Methods for the Chemical Analysis of Water and Wastes, 1983. Specific methods used are listed in the following table of test results.

TEST RESULTS

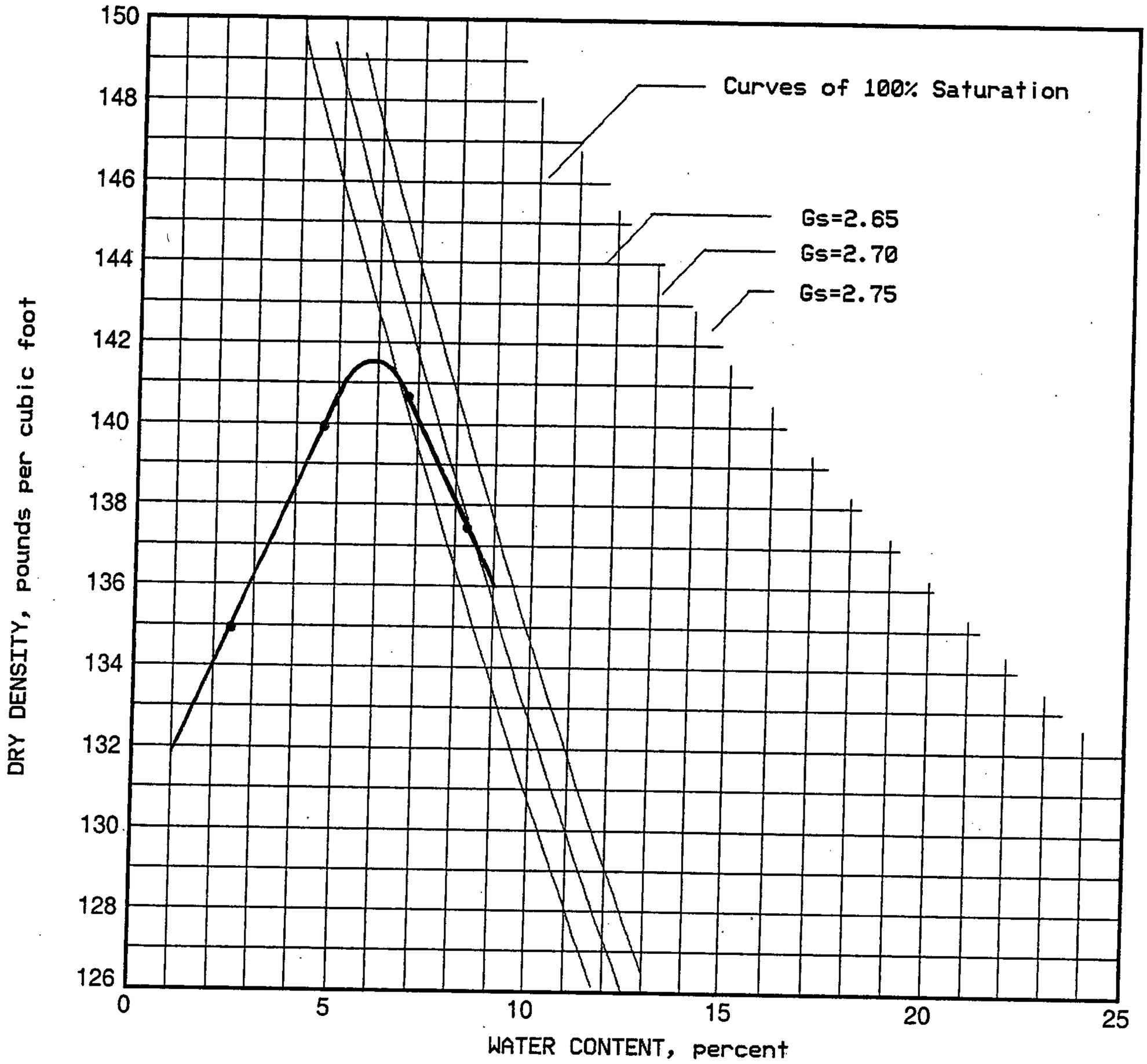
Sample ID No.	Sample Date	Test Hole No.	Sample Depth, ft	Analysis of Water Leachate				
				pH	Conductivity umhos/cm	Chlorides ppm	Sulfates ppm	Acidity** mg/L as $CaCO_3$
05-00049 -01A	06-29-04	B-2	2 1/2	8.3	105	3.5	11.8	N/A*
-02A	07-06-04	B-4	5	7.8	161	4.0	15.3	N/A*
Reporting Limit				N/A*	N/A*	0.2	1	1
EPA Method No.				150.1	120.1	300.0	300.0	305.1

* N/A - Not Applicable
** Determined only if pH is less than 7.0

KABEW KASSEW, Lab Manager II
General Services/Standards
KK:ES:es

1 0 6 1 2 2 3 2 6 1 5 8 2 9 7 7

Recyclable and made from recycled waste.



TEST DESCRIPTION

TEST METHOD: ASTM D-1557 METHOD "C"

Sample	B-17
Depth	0 - 2
Soil Type	Sandy Gravel
Classification	GM
Maximum Dry Density	141.5 pcf
Optimum Water Content	6.0 %

KLEINFELDER

PROJECT NO. 246824 0150297

Proposed Athletic Fields
Sheldon Arleta Landfill
Los Angeles, California

COMPACTION DIAGRAM

PLATE

C-10

APPENDIX B

(Building and Safety Documents)

1 0 6 1 2 2 3 2 0 1 5 0 2 5 7 7

BOARD OF
BUILDING AND SAFETY
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MAYOR

DEPARTMENT OF
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201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ROBERT R. "BUD" OVROM
GENERAL MANAGER

RAYMOND S. CHAN, C.E., S.E.
EXECUTIVE OFFICER

GEOTECHNICAL DIVISION
ENGINEERING
2012 JUL -3 PM 2:24

6-25-12

Log # 77552

City of LA, Geotechnical Engineering Group
1149 S Broadway, # 120
Los Angeles, CA 90015-2213

TRACT: 14137
BLOCK:
LOT : 5
LOCATION: 12600 Sheldon St

PERMIT NO. 12030-10000-02155
DISTRICT MAP: 192B165
COUNTY REF.

SUBJECT: **PRIMARY STRUCTURAL FILL FOR PROPOSED NORTH RESTROOM**

FILL SOILS CLASSIFICATION, PER TABLE 18.1.A.
LOTS HAVING COMPACTED FILL: same

Soils Compaction Report No. 03-053, EW40005F, date 6-8-12, prepared by City of LA, Geotechnical Engineering Group.

Approval is granted for compacted fill constructed on the above lots as described in the compaction report. Approval is limited to the area shown in the report and by the following conditions:

1. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of fill below the footings.
2. Footing bearing pressure for all structures shall not exceed a value of * psf at * inches minimum embedment into approved compacted fill.
3. Isolated footing bearing pressure for all structures shall not exceed a value of / psf at / inches minimum embedment into approved compacted fill.
4. The soil engineer shall inspect the footing excavations to determine that they are founded in the recommended strata before calling the Department for footing inspection.
5. Slope erosion control, planting, and irrigation of fill slopes, and run-off control are required as per Los Angeles City Building Code Sections 91.7012 and 91.7013.
6. Dwelling foundations located partially or wholly upon compacted fill ground shall meet the requirements of Section 91.1806.10 of the Los Angeles City Building Code.

***NOTE: Slab on grade mat foundation 1500 psf.**

GRADING INSPECTOR
Gayk Manukyan
cc: Manukyan-VN Office

10 0 1 2 0 2 0 1 5 0 2 9 7 7

NOTE: Footing inspection card attached (Document Type 02)

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CITY OF LOS ANGELES
CALIFORNIA

ANTONIO R. VILLARAIGOSA
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ROBERT R. "BUD" OVROM
GENERAL MANAGER

RAYMOND S. CHAN, C.E., S.E.
EXECUTIVE OFFICER

SOILS REPORT APPROVAL LETTER

December 21, 2011

LOG # 75610R
SOILS FILE - 2
Revised Letter: paragraph regarding future grading deleted

City of Los Angeles
200 N. Spring Street, 23rd Floor, Suite 2305
Los Angeles, CA 90012

TRACT: 14137
LOT(S): 5
LOCATION: 12455 W. Wicks St

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE(S) OF DOCUMENT	PREPARED BY
Soils Report	W.O. E1700618	12/13/2011	Geotech. Eng. Group (GEO)
Soils Report	W.O. E1700618	11/10/2011	Geotech. Eng. Group (GEO)

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Approval Letter	45346	10/19/2004	LADBS
Soil Report	--	08/27/2004	GED

The Grading Division of the Department of Building and Safety has reviewed the referenced soil reports providing recommendations for the proposed North Restroom to be constructed along Sheldon Street. The proposed structure is to be located near the edge of the existing landfill. According to the consultants, the location of the edge of the landfill shall to be determined during recommended grading in order to establish the final location of the proposed structure. It is recommended that the North Restroom be located outside of the limit of landfill.

The natural earth materials at the location of the proposed structure consist of sand.

The consultants recommend to support the proposed North Restroom on conventional foundations bearing on properly placed fill.

The above referenced letter dated 12/13/2011, concerning project geotechnical supervision and update for the soils report have been received pursuant to Section 91.7008 of the Los Angeles

10612232015029277

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Municipal Code.

The Department previously conditionally approved report for a proposed construction of a restroom buildings and flare station on 10/19/2004, LOG #45346.

Engineering analyses provided by GEO is based on previous findings by GED. GEO is accepting responsibility for use of the data in accordance to Code section 91.7008.5 of LABC.

The referenced reports are acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2011 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The Department of Building and Safety recognizes Geotechnical Engineering Group (GEO) as a geotechnical consultants of record, provided all of the conditions of the Department actions are followed for the site development and for the proposed restroom.

2. All conditions of the Department Approval Letter dated 10/19/2004, LOG #45346 shall apply, with the exception of condition #6, revised below.

3. The seismic design shall be based on a Site Class D as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.

4. The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch. (1808.2)

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

ATS/ats
Log No. 75610R
213-482-0480

cc: Geotechnical Engineering Group (GEO), Project Consultant
LA District Office

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

To Tom.
Pw

City of Los Angeles

SOIL REPORT APPROVAL LIST

LOG#: 45346 DATE: 10/19/2004 SOIL/GEOLOGY FILE - 2

JOB ADDRESS: 12455 Wicks Street DISTRICT OFFICE: VN

TRACT: 14137 COUNTY REF. #: MP 287-36/

BLOCK:

LOT: 5 ARB:

CURRENT REPORT: LA City GED DATED: 8/27/04

CURRENT REPORT: DATED:

OVERSIZED DOCUMENTS X-REF: 2X DATED: 8/27/04 X-REF: DATED:

PREVIOUS REPORT: DATED:

PREVIOUS REPORT: DATED:

PROJECT DESCRIPTION/COMMENTS: Proposed construction of a new concession stand/restroom building along Wicks Street, a restroom building along Sheldon Street, and a new flare station that preferably be located in the northwest corner of the site, but alternatively can be located in the southwest corner of the site. According to the report, the location of the edge of the landfill is recommended to be determined during grading in order to establish the final location of the structures. The proposed buildings are recommended to be located outside the limits of the landfill and underlain by shallow engineered fill over native soils as recommended. Conventional shallow spread foundations founded in engineered fill over the native soils are recommended for structural support. The report recommends existing fill materials below the proposed foundations to be removed and recompacted to reduce structure settlements.

REVIEWED BY (Fred Wong) TELEPHONE (213) 482-0491

REVIEWED BY ( ) TELEPHONE

ROBERT STEINBACH - CHIEF OF GRADING DIVISION

SEISMIC HAZARD INFORMATION		
LIQUEFACTION STUDY ZONE?	☐ YES	■ NO
SEISMIC-INDUCED LANDSLIDE STUDY ZONE?	☐ YES	■ NO
EXEMPT FROM SEISMIC HAZARD ZONE REQUIREMENTS	■ YES	☐ NO

The geology/soil engineering report(s) have been reviewed by the Grading Section of the Department and have been found to be acceptable provided the proposed construction complies with the conditions specified in this letter. The approval of the reports does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in parenthesis ( ) refer to Code sections of the 1998 edition of the California Building Code, Information Bulletin (P/BC).

10612230150297 7

LOG#: 45346

INSTRUCTIONS

- All of the following listed and circled conditions shall apply: 1,2,6~8,11,12,13,18,22,24~27,29,31~33,35~39,& 55~58.

- One copy of the subject geologic/soil engineering reports and this approval letter shall be attached to the field set of plans and one copy shall be provided to the Department Plan Checker prior to issuance of the permits.

PLANS

1. The geologist/soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans include the recommendations contained in their reports.

2. All recommendations of the report(s) which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. All conditions of the Department letter(s) dated_____ shall apply, except as superseded herein.

GENERAL BUILDING

4. Buildings adjacent to ascending slopes shall be set back from the toe of the slope a level distance equal to one half the vertical height of the slope, but need not exceed 15 feet. (1806.5.2)

5. Whenever the principal building on a site is added to, altered or repaired in excess of 50 percent of its replacement value, the entire site shall be brought up to the current Code standard. (7005.9)

6. The LABC Soil Type underlying the site is S d . (Table 16 A-J)

FOOTINGS/SLABS

7. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of 3 feet whichever is greater.

8. All footings shall be founded in certified engineered fill, as recommended.

9. The structural engineer shall verify the adequacy of the existing footings for underpinning.

10. Footings adjacent to a descending slope steeper than 3:1 in gradient shall be located a distance of one-third the vertical height of the slope but need not exceed 40 feet measured horizontally from the face of the slope; for in-ground pools the footing setback shall be one-sixth the slope height to a maximum of 20 feet. (1806.5.3)(Figure 18-I-1)

11. Permanent building footings in close proximity to the buried cut slope of the landfill pit shall be located at a minimum of 3 feet from the rim of the buried landfill cut slope as recommended, in lieu of the standard setback prescribed by the Building Code.

12. Footings supported on approved compacted fill or expansive soil shall be reinforced with a minimum of four (4) ½-inch diameter (#4) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed bear the top. (1804.4)

13. Concrete floor slabs placed on approved compacted fill or expansive soil shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

14. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch-thick fill of coarse aggregate or on a 2-inch sand bed covered moisture barrier membrane. The slabs shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way. (1804.4)

15. Concrete floor slabs placed on uncertified fill shall be designed as structural slabs.

16. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill.

17. If import soils are used, no footings shall be poured until the soil engineer has submitted a compaction report containing in-place shear test data and settlement data to the Department, and obtained approval

18. The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch.

19. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored.

GRADING/SLOPES

20. All new fill slopes shall be no steeper than 2:1. (7011.2)

21. All nonconforming street cut slopes shall be trim-graded back to a slope gradient no steeper than____ or retained by a designed retaining wall.

22. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557; Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density.

LOG#: 45346

23. For grading involving import or export of more than 1000 cubic yards of earth materials within the *grading hillside area*, approval is required by the Board of Building and Safety. Application for approval of the haul route must be filed with the Grading Section. Processing time for application is approximately 8 weeks to hearing plus 10-day appeal period. (7006.7.4)

24. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Department and the Department of Public Works, for any grading work in excess of 200 cu yd. (7007.1)

DRAINAGE

25. All roof and pad drainage shall be conducted to the street in an acceptable manner; water shall not be dispersed on to descending slopes without specific approval from the Grading Section and the consulting geologist and soil engineer. (7013.10)

TEMPORARY EXCAVATIONS/RETAINING WALLS

26. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety.

27. A supplemental report shall be submitted to the Grading Section containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way or adjacent structures.

28. Prior to the issuance of any permit which authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation. (3301.2.1)

29. Unsurcharged temporary excavations may be cut vertical up to a height of **5** feet. Portions of the excavation above this height shall be trimmed to no steeper than **1-1/2:1** (horizontal to vertical), as recommended.

30. Slot cuts using the A -B -C method, shall be no wider than___ feet, no higher than ___ feet, for proposed subterranean parking structure excavations.

31. Suitable arrangements shall be made with the Department of Public Works for the proposed removal of support and/or retaining of slopes adjoining the public way, as applicable.

32. Retaining walls for level or slopping backfill shall be designed for a minimum equivalent fluid pressure as indicated on Table 2 (Lateral Earth Pressure), Page 32 of the report.

33. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device.

34. The recommended equivalent fluid pressure (EFP) for the proposed retaining wall shall apply from the top of the freeboard to the bottom of the wall footing.

35. All retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Installation of the subdrain system shall be inspected and approved by the soil engineer and the City grading/building inspector.

CONSTRUCTION INSPECTION AND REPORTING

36. Prior to the placing of compacted fill, a representative of the consulting soil engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the City Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed with the Department upon completion of the work. The fill shall be placed under the inspection and approval of the soil engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

37. Prior to the pouring of concrete, a representative of the consulting geologist and soil engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the City Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work.

38. The soil engineer and the geologist shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading.

39. Prior to excavation, an initial inspection shall be called at which time sequence of shoring, protection fences and dust and traffic control will be scheduled.

40. Installation of shoring, underpinning, and/or slot cutting excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector.

ADDITIONAL CONDITIONS

LOG#: 45346

41. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit.

42. A registered deputy grading inspector approved by and responsible to the project soils engineer shall be required to provide continuous inspection for any proposed slot-cutting, underpinning, shoring, tie-back, or drilling and installation of deep foundations.

43. Casing or other approved method of pile/caisson installation shall be used where caving soils are present.

44. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up.

45. Slurry/lean concrete shall not be used in the passive bearing portion of soldier piles.

46. Cantilevered shoring with a level backfill shall be designed for a minimum equivalent fluid pressure of ___pcf, plus any surcharge, as recommended.

47. Braced/anchored shoring up to____ft high, as a minimum shall be designed for a trapezoidal earth pressure having a uniform _____ H psf distributed over the central six-tenths, plus any surcharge and water loading, as recommended.

48. Estimated lateral deflection of the tops of soldier piles under design loads shall be presented in a table on the plans. Soldier pile deflections during construction and excavation shall be monitored under the supervision of the soils engineer.

49. The installation and testing of temporary tie-back anchors shall comply with the recommendations included in the report or the Department standard sheets titled "Requirement for Tie-back Earth Anchors"(RR23835), whatever is more restrictive.

50. Soil behind the soldier pile shoring spaced greater than___ft clear, shall be retained with lagging, as recommended. Lagging which may experience long-term soil contact shall be treated for insects and decay.

51. All temporary shoring shall be removed prior to occupancy unless administrative approval from the Department is obtained to abandon based on detailed recommendations and figures by the soils engineer.

52. Basement/restrained walls shall be designed for a minimum trapezoidal pressure having a uniform ____H psf distributed over the central six-tenths, plus any surcharge/water load, as recommended.

53. Prefabricated drainage composites may be only used in addition to traditionally accepted methods of draining retained earth.

54. Special provisions such as flexible or swing joints shall be made for buried utilities and drain lines to allow for differential vertical displacement.

55. Footings shall be founded entirely in certified compacted fill as recommended.

56. Continuous / isolated footings allowable bearing pressure shall be **(1,500)** psf, for footings with a minimum of **12/18** inches in width and embedded a minimum of **12** inches into **engineered fill** as recommended.

57. Allowable vertical foundation pressure, frictional and lateral soil bearing values shall be limited to a maximum one-third increase when considering earthquake or other temporary forces. (1805)

58. Frictional and lateral resistance of soils may be combined, provided the lateral bearing resistance does not exceed two-thirds of the allowable lateral bearing.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

APPENDIX C

(Active and Passive Pressure Calculations for Retaining Wall)

1 0 8 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS

City of Los Angeles

Sheet No. 1 of 8			Date
PROJECT TITLE: Cezar Chavez Park Retaining Wall	Prepared	TRS	1-30-14
DESCRIPTION: Loading on Wall	Checked		
W.O. EW40005F	Approved	TRS	2-7-14

1. Wall Surcharged by CXT Restroom Building

   A. Wall-Located along Sheldon Street ℄

   B. Restroom Building Slab is uniform Load 400psf

   C. Retaining Wall Constructed and Backfilled Prior to Placing CXT Building

2. Wall founded on 2 feet of Fill and Backfilled

   A. On-Site gravelly sand compacted to 95% RC

   B. Wall Backfill is Structural Fill along North edge of Building. Therefore, Backfill along Restroom shall also be compacted to 95% RC

3. Wall foundation will follow the 3 steps as shown on the following 3 pages

4 Calculation sheets 5-8 show largest Loading Will occure where the wall supports the yard where future loading will vary. Therefore, Assume worst case condition. Note: Wall will require Larger footing and Removal & Recompaction Zone will also be Larger.

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

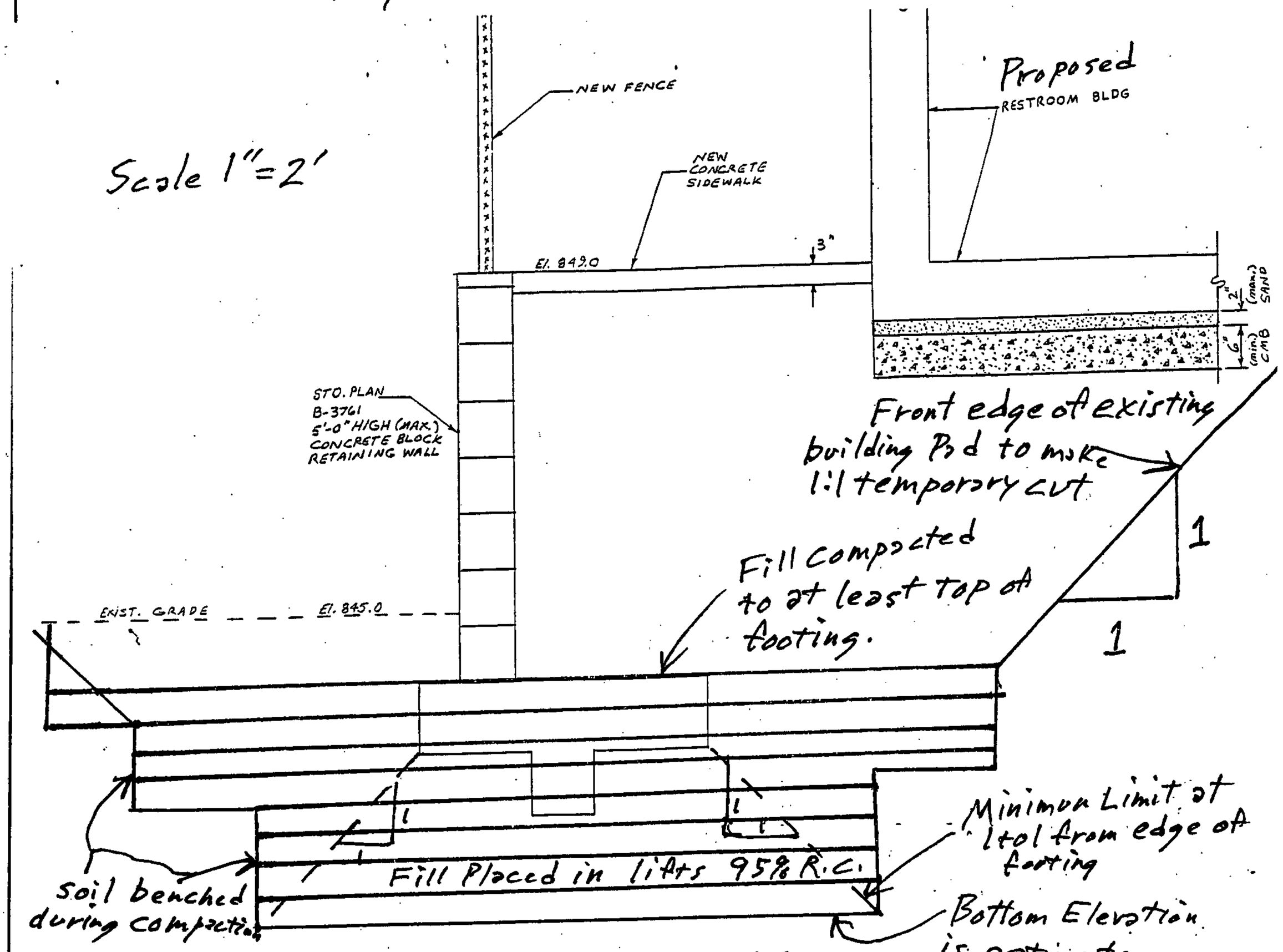
DEPARTMENT OF PUBLIC WORKS
City of Los Angeles

PROJECT TITLE: Cesar Chavez Park Retaining Wall	Sheet No. 2 of 8		Date
DESCRIPTION: Removal & Recompaction for Footing	Prepared	TRS	2-6-14
W.O. EW400056F	Checked		
	Approved	[illegible]	2-7-14

Step 1

Showing the Removal limits of existing soil and its Replacement as Structural Fill.

Scale 1"=2'



1. Once Fill is compacted to top of footing GEO will write a compaction Report.
2. This phase of work shall stop until New Compacted Fill is approved by Los Angeles City Department of Building and Safety. Typically This takes 3 weeks

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS

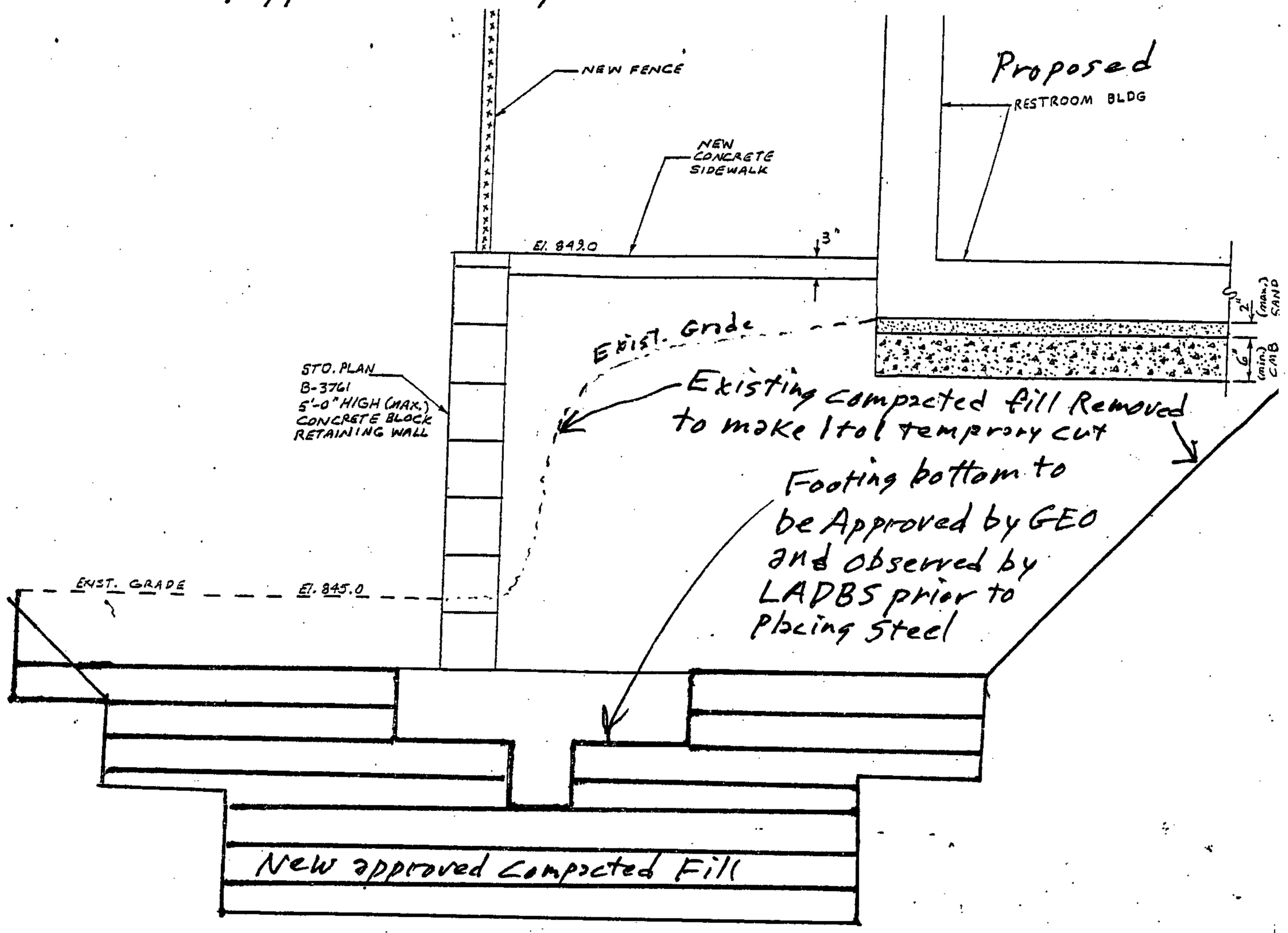
City of Los Angeles

	Sheet No. 3 of 8		Date
PROJECT TITLE: Cesar Chavez Park Retaining Wall	Prepared	TRS	2-6-14
DESCRIPTION: Excavation of Footing in new fill	Checked		
W.O. EW40005F	Approved	TRS	2-7-14

Step 2

Showing the Footing Excavation into new

B+S Approved compacted Structural Fill



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

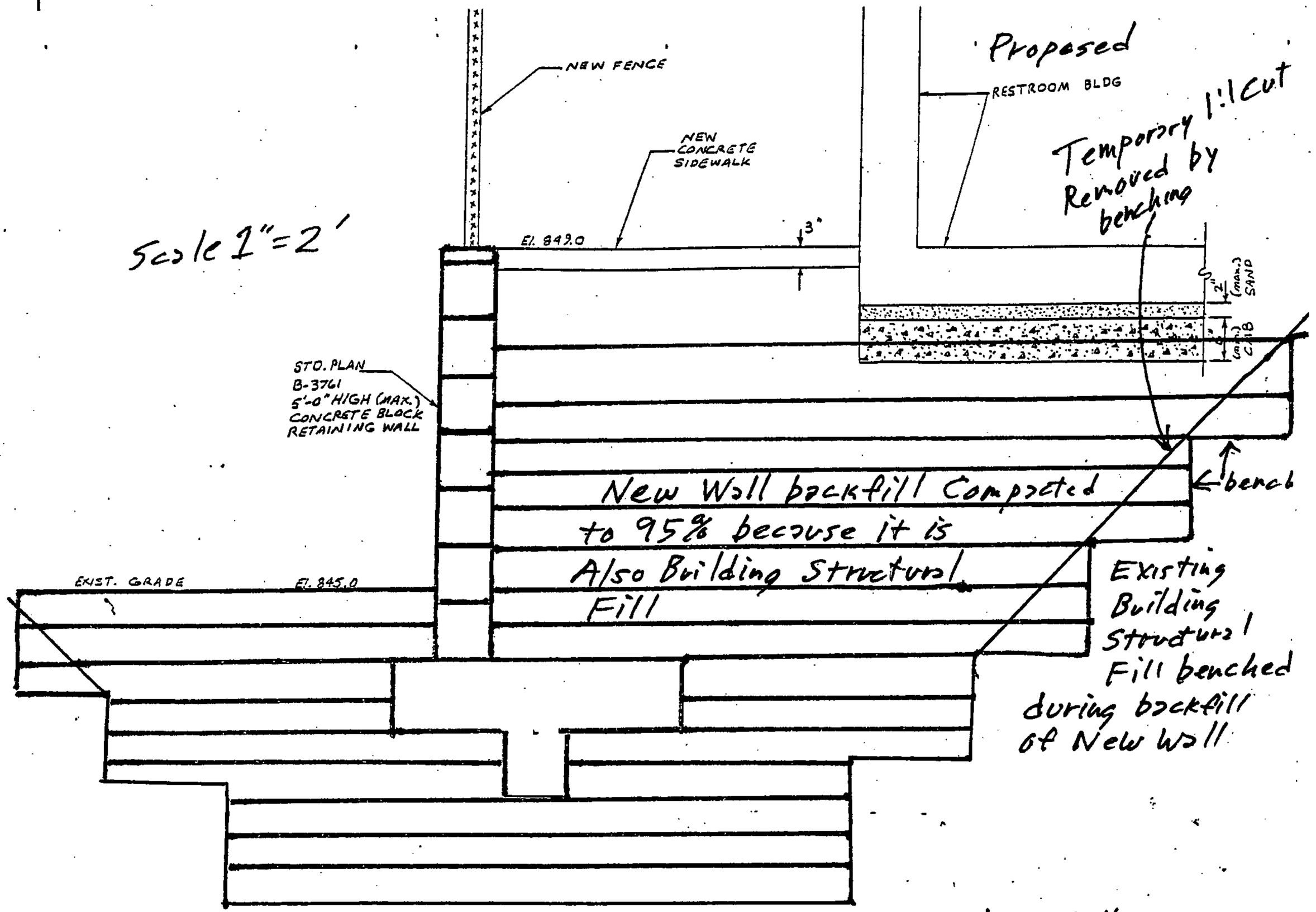
DEPARTMENT OF PUBLIC WORKS

City of Los Angeles

	Sheet No.	4 of 8	Date
PROJECT TITLE: Cesar Chavez Park Retaining Wall	Prepared	TRS	2-6-14
DESCRIPTION: New Wall w/ Building Backfill	Checked		
W.O. EW4000 5F	Approved	PJRS	2-7-14

Step 3

Build Retaining Wall and Replace Building Pad Structural Fill.



Scale 1"=2'

Do Not Place Building on Pad until New Wall backfill is approved by LADBS. Approval typically takes 3 weeks

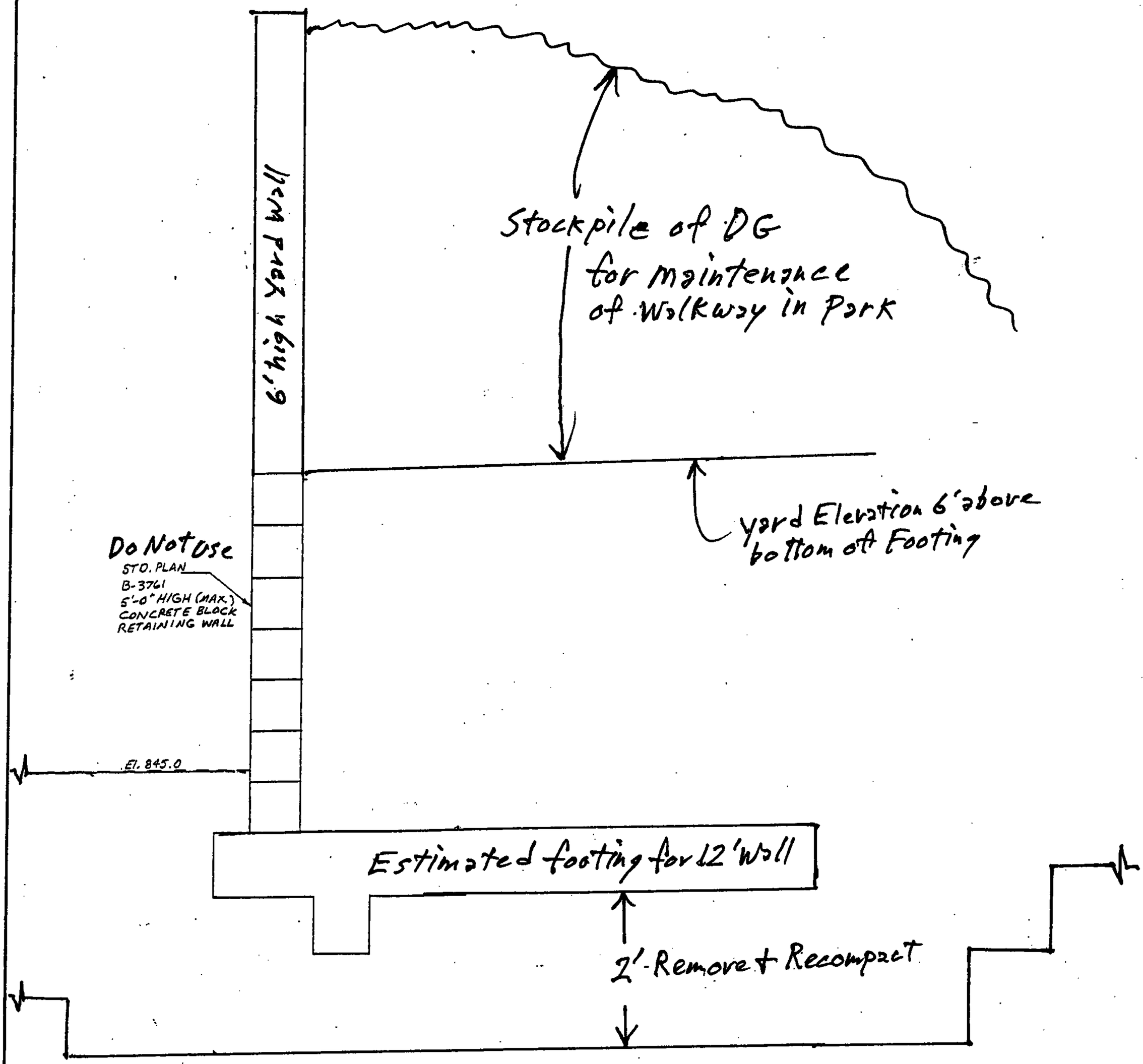
1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS

City of Los Angeles

	Sheet No. 5 of 8		Date
PROJECT TITLE: Cesar Chavez Park Retaining Wall	Prepared	TRS	2-7-14
DESCRIPTION: Load on Wall Surcharged by DG Stockpile	Checked		
W.O. EW400085F	Approved	TRS	2-2-14



Scale 1" = 2'

Note: the Larger footing requires a larger removal and recompact volume.

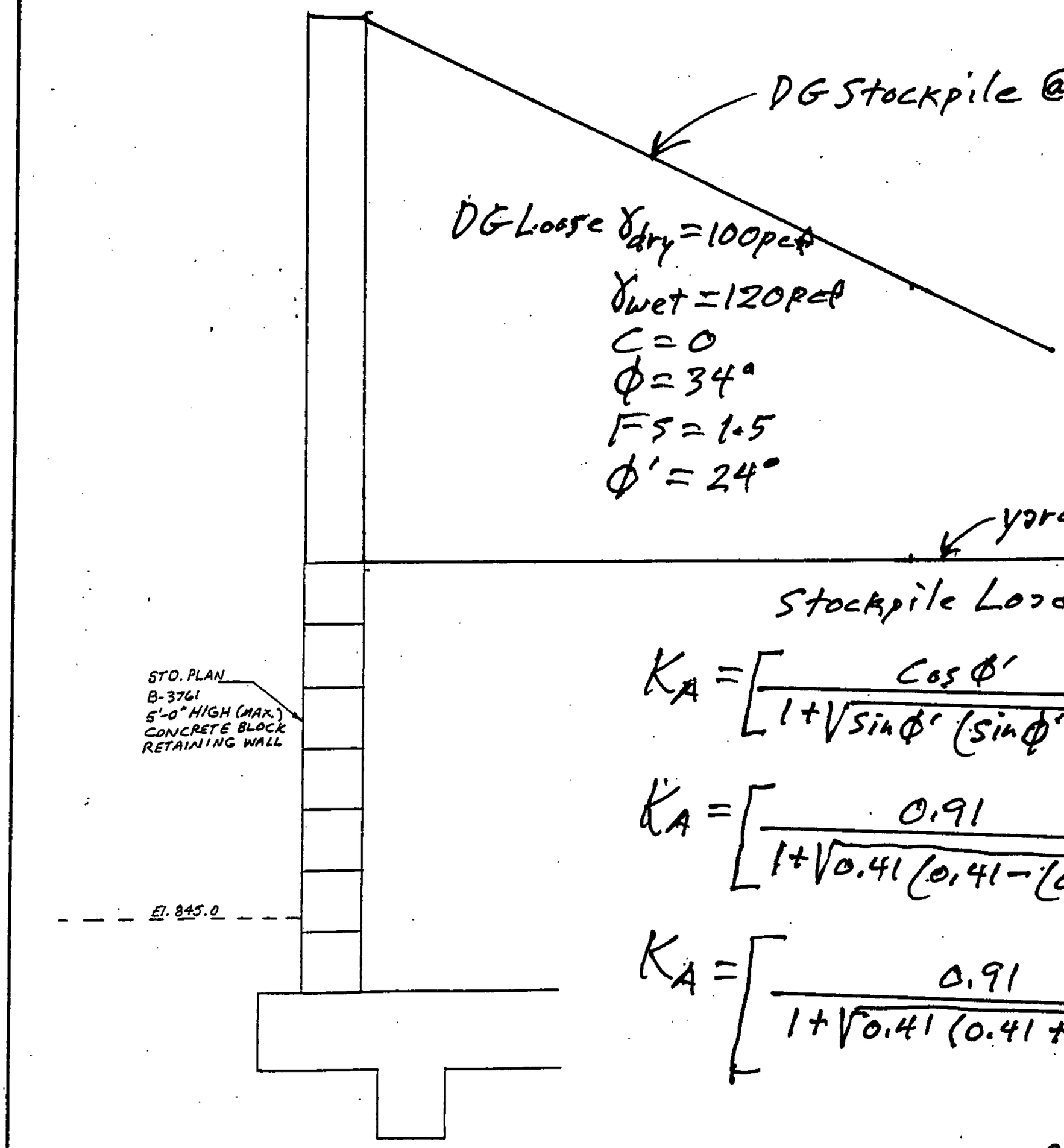
1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS

City of Los Angeles

	Sheet No. 6 of 8		Date
PROJECT TITLE: Cesar Chavez Park Retaining Wall	Prepared	TRS	2-7-14
DESCRIPTION: Load on Wall Surcharged by DG Stockpile	Checked		
W.O. EW40005F	Approved	DLR	2-7-14



Stockpile Load on Stem Wall

$$K_A = \left[\frac{\cos\phi'}{1+\sqrt{\sin\phi'\,(\sin\phi' - (\cos\phi'\,\tan\beta))}}\right]^2$$

$$K_A = \left[\frac{0.91}{1+\sqrt{0.41\,(0.41-(0.91\,(-0.5)))}}\right]^2$$

$$K_A = \left[\frac{0.91}{1+\sqrt{0.41\,(0.41+0.40)}}\right]^2$$

$$K_A = \left[\frac{0.91}{1+0.58}\right]^2 = 0.333$$

$$P_A = K_A\,\gamma_{wet} = 0.333 \times 120\text{pcf} = 40\text{pcf}$$

$$P_{A\ stem\ wall} = 40\text{pcf equivalent Fluid Pressure}$$

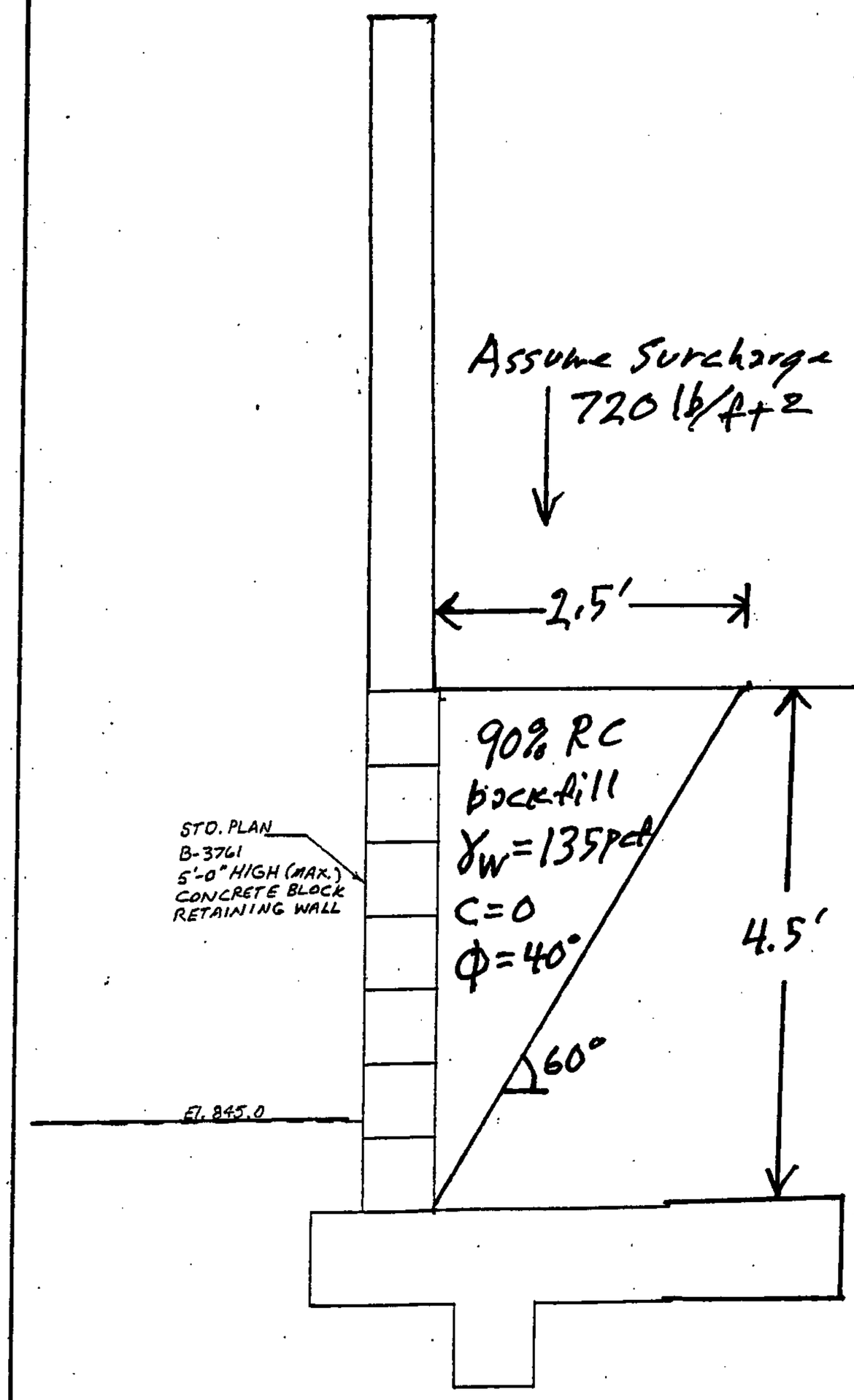
1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS

City of Los Angeles

	Sheet No. 7 of 8		Date
PROJECT TITLE: Cesar Chavez Park Retaining Wall	Prepared	TRS	2-7-14
DESCRIPTION: Load on Wall Surcharged by DG Stockpile	Checked		
W.O. EW40005F	Approved	TRS	2-7-14



$$P_A = [W - C'L\sin\alpha)\tan\alpha - \phi' - (C'L\cos\alpha)]$$

(C'L sin α = 0; C'L cos α = 0)

$$P_A = W\tan\alpha - \phi'$$

$$W = (\tfrac{1}{2} \times 2.5' \times 4.5')135pcf + 720psf \times 2.5$$

$$W = 760plf + 1800plf$$

$$W = 2560plf$$

ϕ=40° FS=1.5 ϕ'=29°

$$P_A = 2560plf\ \tan(60° - 29°)$$

$$P_A = 1538plf$$

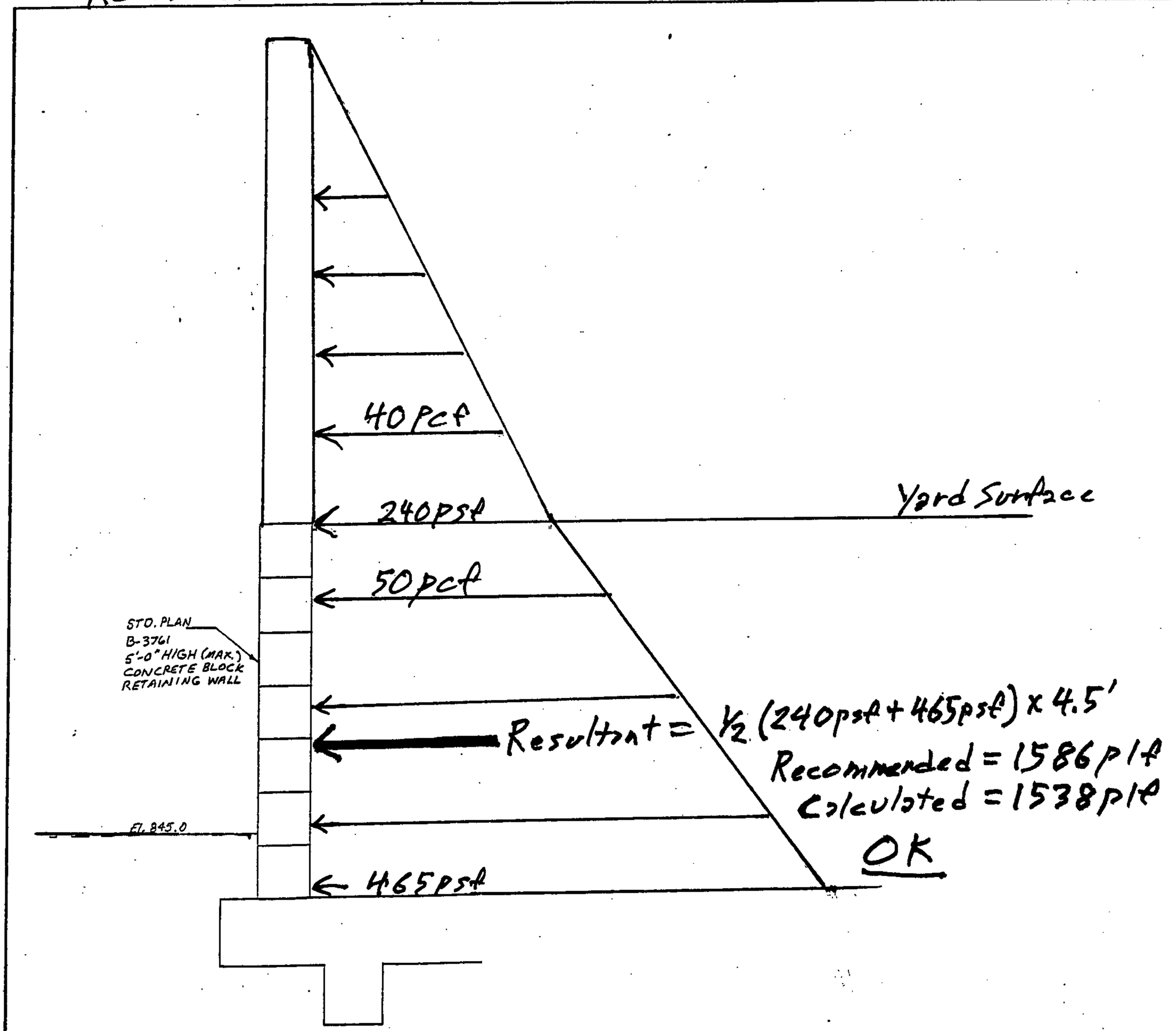
1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS

City of Los Angeles

	Sheet No. 8 of 8		Date
PROJECT TITLE: Cesar Chavez Park Retaining Wall	Prepared	TRS	2-7-14
DESCRIPTION: Load on Wall Surcharged by DG Stockpile	Checked		
Recommended EFP W.O. EW40005F	Approved	TRS	2-7-14



1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

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201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

SOILS REPORT APPROVAL LETTER

February 28, 2014

LOG # 83272
SOILS/GEOLOGY FILE - 2

City of Los Angeles
221 N. Figueroa St., Ste 100
Los Angeles, CA 90012

TRACT: The Maclay Rancho (MR 37-5/16)
LOT(S): Fr 325
LOCATION: 12600 W. Sheldon St.

TRACT: 14137
LOT(S): 1-5
LOCATION: 12455 W. Wicks St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE(S) OF DOCUMENT	PREPARED BY
Soils Report	03-053	02/11/2014	City of LA - GEO
Soils Report	03-053	02/07/2014	City of LA - GEO

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Approval Letter	75610 LADBS	12/14/2011	
Soils Report	W.O. E1700618	12/13/2011	Geotech. Eng. Group (GEO)
Soils Report	W.O. E1700618	11/10/2011	Geotech. Eng. Group (GEO)
Dept. Approval Letter	45346	10/19/2004	LADBS
Soil Report	--	08/27/2004	GED

The Grading Division of the Department of Building and Safety has reviewed the referenced soil reports providing recommendations for the proposed two baseball diamond backstops and the proposed retaining wall. According to the consultants, the new baseball stops are to be located at the south end of the new Cesar Chavez Park. It is recommended that CIDH piles shall be used to support the baseball backstop fences. The new retaining wall will be approximately 4 feet high, supporting the previously constructed structural fill pad for the North Restroom at Cesar Chavez Park. The consultants recommend that the proposed retaining wall be supported on conventional shallow footings.

The referenced reports are acceptable, provided the following conditions are complied with during

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site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2011 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The soils engineer shall review and approve the detailed plans prior to issuance of any permit. This approval shall be by signature on the plans which clearly indicates that the soils engineer has reviewed the plans prepared by the design engineer and that the plans included the recommendations contained in his report. (7006.1)

2. All recommendations of the reports which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit. (7006.1)

4. A grading permit shall be obtained for all structural fill and retaining wall backfill. (106.1.2)

5. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density (D1556). Placement of gravel in lieu of compacted fill is allowed only if complying with Section 91.7011.3 of the Code. (7011.3)

6. If import soils are used, no footings shall be poured until the soils engineer has submitted a compaction report containing in-place shear test data and settlement data to the Grading Division of the Department, and obtained approval. (7008.2)

7. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of three feet whichever is greater. (7011.3).

8. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill. (1809.2)

9. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction. (7013.12)

10. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety. (3301.1)

11. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised

recommendations to the Department for approval.

12. Unsurcharged temporary excavations shall be trimmed back at a gradient not exceeding 1:1, as recommended. Vertical cuts shall not exceed 5 feet and are only permitted for footings excavation in the new structural fill.

13. Footings for the proposed retaining wall shall derive entire support from minimum 2 feet of compacted fill, as recommended.

14. The proposed baseball backstop fences shall be supported on CIDH piles with a minimum pile diameter of 18 inches, and embedded minimum 6.5 feet in the compacted landfill cap or natural soils. Piles shall not be drilled into the trash fill, as recommended.

15. Pile caisson and/or isolated foundation ties are required by Code Sections 1809.13 and/or 1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2011-30.

16. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up; an admixture that reduces the problem of segregation of paste/aggregates and dilution of paste shall be included. (1808.8.3)

17. Retaining walls shall be designed for the lateral earth pressures specified in the section titled "Active Pressure by Location" starting on page 5 of the 02/07/2014 report. All surcharge loads shall be included into the design.

18. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device. (7013.11)

19. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soil report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record. (1805.4)

20. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector. (108.9)

21. Prefabricated drainage composites (Miradrain) (Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

22. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS. (7013.10)

23. The soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading. (7008 & 1704.7)

24. All friction pile or caisson drilling and installation shall be performed under the inspection

and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent material in a written field memorandum. (1803.5.5, 1704.9)

25. Prior to the pouring of concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the LADBS Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

26. Prior to excavation, an initial inspection shall be called with LADBS Inspector at which time sequence of construction, pile installation, protection fences and dust and traffic control will be scheduled. (108.9.1)

27. Installation of shoring, underpinning, slot cutting excavations and/or pile installation shall be performed under the inspection and approval of the soils engineer and deputy grading inspector. (1704.7)

28. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the LADBS Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included. (7011.3)

YING LIU
Structural Engineering Associate II

YL/yl
Log No. 83272
213-482-0480

cc: Dept of Rec & Parks - Dave Takata, Applicant
LA City - GEO, Project Consultant
VN District Office

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: June 11, 2019

To: Neil Drucker, Interim Division Head
Architectural Division

Attention: Gus Malkoun

From: Patrick Schmidt, P.E., G.E., Division Manager
Geotechnical Engineering Division (GED)

Subject: **UPDATE GEOTECHNICAL REPORT, CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRACT, LOT FR 325**
FILE NO.: 03-053 **W.O.: E170163B**

1.0 INTRODUCTION

The Geotechnical Engineering Division (GED) prepared this update report in response to an e-mail request from the Architectural Division (ARC), dated November 14, 2018. This report was prepared to evaluate subsurface characteristics and to provide updated geotechnical recommendations and parameters for the design and construction of the proposed Cezar Chavez Park (Sheldon Arleta Landfill) Phase IIIC project. The recommendations of this report are supplemental to the previous geotechnical report for the park development, dated August 27, 2004, approved by the Los Angeles Department of Building and Safety (LADBS) on October 19, 2004, under Log # 45346. A previous update report for construction of the baseball field backstops was issued on February 11, 2014, and was approved by LADBS on February 28, 2014, under Log # 83272. The recommendations of the previous referenced reports shall apply except as specifically modified herein. Other update reports have been issued for portions of work outside the area of Phase IIIC of the project. These reports are not considered applicable to the current scope of work and are not referenced herein.

The recommendations of this report are based on site observations, the findings of the previous referenced reports, and subsequent drilling conducted by Kleinfelder, Inc. Under the direction of GED, Kleinfelder drilled nine borings on the south side of the park in the area of proposed improvements for Phase IIIC of the park project. These borings were drilled to confirm the findings of previous investigations reported in the referenced geotechnical reports and to evaluate changes in subsurface conditions due to grading activities since the time of the previous investigations. Kleinfelder's Data Report is provided in Appendix A. GED has reviewed this report and takes responsibility for the use of its contents as Geotechnical Engineer of Record.

2.0 HISTORY

The Sheldon Arleta Park is located at 12455 Wicks Street. A site vicinity map of the project area is shown in Figure 1, Site Vicinity Map. From the mid-1950's to 1962, the site operated as a commercial sand and gravel quarry. The site operated as a Class III landfill between 1962 and 1974 and approximately 3 million tons of residential and commercial refuse was placed on the site. A clay cap was placed over the refuse at closure. Afterward, additional fill was placed and grading was performed subsequent to the closure of the landfill and prior to the commencement of park improvement phases.

After the closure of the landfill and prior to the start of the park improvement phases, the existing structures and underground tanks related to the previous operations of the site were demolished or removed within the south area of the property, adjacent to Wicks Street. GED does not have full documentation of the demolition and removal activities, and some previous improvements may have been abandoned in place. Additionally, GED does not have documentation of backfilling after removal of underground improvements, so some areas of uncertified fill associated with these removals is expected to exist.

Previous project phases have been completed for the central, eastern and most of the northern areas of the site. During Phase IA, a new methane gas extraction piping system and flare station replaced a previous installation from the 1980's. Part of the piping system was routed along the perimeter of the site. As such, the trenching operations for the new piping and installation of associated control devices added fill at the south area of the site where the proposed Phase IIIC project will occur.

Phase IIB included development of soccer fields, baseball fields with backstops, a restroom at the north side of the site, and landscaping with irrigation lines and related electrical conduits for the eastern half of the site. Landscaping activities during previous phases also placed fill at the south area of the site.

3.0 PHASE IIIC PROJECT DESCRIPTION

The current Phase of park development, designated as IIIC, will include improvements at the south side of the park along Wicks Street. The proposed improvements will include a new restroom/office facility, parking lot, basketball court, children's play area, baseball field with a backstop, as well as landscaping, site grading, and minor associated improvements. Final site grades are expected to be within 5 feet less of current grade. Many of the proposed improvements as part of the current phase of the project will be located outside the limits of the landfill with the exception of the parking lot which will partially extend over the landfill area. The baseball field and backstop will also be located within the landfill area. Plans showing the proposed improvements and the limits of the landfill are provided in Figures 2A and 2B.

The locations of some of the improvements, including the restroom/office facility, have not been finalized at this time as discussed with ARC personnel. The

recommendations of this report have been developed to allow for reorganization of the other improvements and may apply as long as the improvements are located outside the limits of the former landfill. GED shall review the final layout of the proposed improvements and provide additional recommendations as needed. If there are other significant changes to the proposed scope, a supplemental report may be required.

4.0 CURRENT INVESTIGATION

As previously discussed, the current investigation was performed to confirm that the proposed office/restroom foundation and most other improvements would be located outside of the landfill area and to investigate the fill placed at the south side of the site during previous Phases since compaction records could not be located.

4.1 DRILLING AND SAMPLING

The field exploration and laboratory testing was completed by Kleinfelder, Inc. under the direction of GED. Seven (7) geotechnical and two (2) environmental borings were drilled in the area of the proposed construction to approximate depths of 11.5 to 26.5 feet below the ground surface (bgs). The exploratory borings were drilled using a truck-mounted drill rig with a hollow stem auger. Approximate locations of the borings are depicted in Figures 2A and 2B and in the Kleinfelder report in Appendix A.

Ring samples were collected at 5 feet bgs and every 5 feet thereafter from the geotechnical borings to the explored depths of 11.5 feet to 26.5 feet bgs. Ring samplers were driven into the bottom of the borings with successive drops of a 140-pound hammer falling 30 inches. Blows required to advance the samplers every six inches of penetration are shown on the boring logs in the Kleinfelder Data Report. Bulk samples were also collected from the upper 5 feet of each boring.

Each collected sample was inspected and described in general conformance with the Unified Soil Classification System (USCS). The descriptions were entered on the boring logs. All samples were sealed and packaged for transportation to AP Engineering and Testing, Inc. laboratory. After completion of drilling, borings were backfilled with cement-bentonite grout or soil cuttings.

In addition to logging the environmental borings, environmental sample screening was performed and samples were retrieved at depths of 2½ feet, 5 feet, and 10 feet. Samples were sealed and transported to Advanced Technology Laboratories for further evaluation and testing. Equipment such as drilling augers, downhole drilling tools, bits and other drilling equipment used during drilling of the borings were cleaned with potable water and non-phosphate detergent, rinsed with potable water and then rinsed with distilled water after use.

Screening in the field for volatile organic compounds (VOCs) was performed to evaluate whether fuel spills or other contamination of the soil has occurred in the project area. Soil samples were screened in the field with a portable Photo Ionization Detector (PID)

MiniRAE3000 for the presence of VOCs. A MultiRAE PID+ four-gas meter was used as a screening tool for Lower Explosive Limit (LEL). LEL and VOC readings are presented on the boring logs.

4.2 LABORATORY TESTING

Selected soil samples were tested for the following properties:

Geotechnical Tests

- In-place Dry Density and Field Moisture (ASTM D2216)
- Laboratory Maximum Dry Density and Optimum Moisture Content (ASTM D1557)
- Consolidation (ASTM D2435)
- Direct Shear (ASTM D3080)
- Sieve Analysis (ASTM D6913)
- Atterberg Limits (ASTM D4318)
- R-Value (ASTM D2844)
- Wash Sieve Analysis (ASTM D1140)
- Corrosivity Tests (ASTM D4327, D4658M, D4972, G57)

The geotechnical laboratory tests were performed by AP Engineering and Testing, Inc.

Environmental Tests

- EPA 418.1 or 1664 (TRPH)
- EPA 8015M (Carbon chain speciation)
- EPA 8260 or equiv. (VOCs, including oxygenates)
- EPA 8270 or equiv. (SVOCs)
- EPA 6010B/Title 22 metals (TTLC)
- EPA 8081/2 or equiv. (Organochlorine Pesticides & PCBs)
- EPA 8150 (Herbicides)

The environmental laboratory tests were performed by Advanced Technology Laboratories.

Results of the geotechnical and environmental laboratory tests are presented in Kleinfelder's Data Report in Appendix A.

4.3 SOIL PARAMETERS

Based on the results of the current investigation and previous investigations, soil parameters used for design purposes of this report are summarized in Table 1, Soil Design Parameters.

Table 1 – Soil Design Parameters

Material (USCS Classification)	Unit Weight (pcf)	Cohesion (psf)	Friction (°)
Native Soil, Sand w/Silt and Gravel (SP, SP-SM, SM)	110	100	33
On-Site Fill Soil (ML, SM), Remolded to 95%	130	150	29

5.0 SITE CONDITIONS

5.1 SURFACE CONDITIONS

The 41-acre site, which operated from 1962 to 1974 as a City of Los Angeles municipal landfill, is located in a light industrial and residential area of the San Fernando Valley. The landfill has achieved closure and is being developed as a public park. Previous phases of development have been completed for the north, eastern and central areas of the park. As part of the prior work, the southern portion of the site has been landscaped and a partial irrigation system has been installed in the southwest portion of the site.

The southern portion of the site generally slopes downward to the west from an approximate elevation of 840 feet about mean sea level (MSL) on Sharp Avenue to 825 feet MSL on Arleta Avenue. The site also generally slopes downward to the south. Previous landscaping activities on the south side have placed fill materials up to several feet in depth in many areas. Though recorded blowcounts and density testing indicates that the fill was compacted to some degree, GED does not have any record of the fill placement or compaction testing and it is considered uncertified. The area of the former landfill, generally north of the current improvements, has experienced settlement up to several feet in some locations, resulting in localized depressions. Settlement within the landfill area up to one foot or more is anticipated during the life of the project.

5.2 SUBSURFACE CONDITIONS

The approximate limits of the landfill were documented in the August 27, 2004 report based on records of the quarry and landfill operations as well as subsurface CPT borings advanced at various locations around the landfill perimeter. To confirm that the proposed restroom is located outside of the former landfill area, GED studied the Pre-Landfill Topographic Plan, dated January 3, 1962, along with aerial photos of that time period. GED also drilled additional borings in the area of the proposed improvements. None of the current borings encountered landfill debris or trash, though boring B-1 did encounter asphalt debris at a depth of 21 feet bgs, believed to be from a perimeter road at the edge of the landfill. Boring B-2 also encountered deep fill, likely placed as part of the landfill closure.

Other borings encountered uncertified fill consisting of moist clay to silty sand materials

to depths of approximately 3 to 7 feet bgs. Below the fill, borings encountered native moist, medium dense to very dense silty to poorly graded sand to the depth of exploration.

5.1 GROUNDWATER

None of the current or previous borings encountered groundwater to the explored depths of up to 51.5 feet bgs.

The California Division of Mines and Geology, Historic Ground Water (CDMG), indicates the highest reported historic groundwater between 140 feet and 150 feet bgs as shown on Figure 3, Historic Ground Water.

Limited amounts of perched water and seepage may be encountered at contacts between fine and coarse-grained soils within the project area. Seasonal fluctuations in groundwater levels may occur due to variations in climate, irrigation, and other factors not readily evident.

5.2 METHANE

The site is located in a Methane Gas Mitigation Zone and as such, any structures constructed are subject to methane remediation requirements if built with a slab-on-grade foundation or on a raised foundation to provide proper ventilation. If a raised foundation is selected, the minimum clearance between finish grade and the bottom of the floor surface is 18 inches with the perimeter of the building to have open space or some type of screen mesh for ventilation.

5.3 CONTAMINATED SOIL

Previous investigations in the area of a former maintenance garage near borings E-1 and E-2 have encountered and characterized soil contamination at the site consisting of TRPH, TPH-Carbon Chain, VOCs, Pesticides and PCBs, and lead. However, most of the prior samples tested were below PRGs for residential soils and STLC values. Similar contamination is not known to exist in other areas of the current investigation area, but may be encountered.

Results of environmental testing of soil samples in the area of previous improvements are included in Appendix A. Based on these results, the borings did not encounter significant contamination. None of the geotechnical borings encountered evidence of soil contamination.

6.0 SEISMIC CONSIDERATIONS

The following sections indicate seismic design parameters and discuss seismic hazards for the project area.

6.1 2017 LABC Seismic Design Parameters

Seismic design parameters for the project were developed in accordance with the 2017 City of Los Angeles Building Code (2017 LABC). The parameters are based on mapped spectral acceleration values in the 2017 LABC, and the site condition. The seismic design parameters for the site are summarized in Table 2, Seismic Design Parameters.

The following values were obtained from the Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps Web Services at (https://seismicmaps.org/) using site coordinates shown on the boring logs, Site Class D, and Risk Category I, II, or III.

Table 2 – Seismic Design Parameters

Parameter	Value	Reference
Site Class	D	ASCE 7-10
S_s	2.284	ASCE 7-10
S_1	0.846	ASCE 7-10
S_{MS}	2.284	ASCE 7-10
S_{M1}	1.268	ASCE 7-10
S_{DS}	1.523	ASCE 7-10
S_{D1}	0.846	ASCE 7-10
T_O (seconds)	0.111	ASCE 7-10 Chapter 11
T_S (seconds)	0.555	ASCE 7-10 Chapter 11

6.2 Seismic Hazards

The fault classification system adopted by the California Geologic Survey (CGS), relative to State legislation delineating Earthquake Fault Zones along active or potentially active faults (Alquist-Priolo Act), is used for structures. CGS defines an active fault (or fault zone) as a fault that has moved within Holocene time (about the last 11,000 years). Faults with no known displacement within Holocene time that showed evidence of movement during Quaternary time (the last 1.6 million years) have been defined as potentially active.

In addition, the State has also established a Seismic Hazard Mapping Act to provide statewide seismic hazard mapping and technical advisory program. The purpose of this legislation was to assist cities and counties in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction,

landslides, or other ground failure hazards caused by earthquakes.

Based on the current understanding of the geologic framework of the site area, the site is subject to significant ground shaking resulting from an earthquake occurring along any of several major active and potentially active faults in Southern California. Known regional faults that could produce significant ground shaking at the site include the Verdugo, Northridge, Sierra Madre, and Hollywood Faults. The closet of these is the Verdugo fault located at a distance of about 1.3 miles from the project site.

The peak ground acceleration (PGA_M) at the site is 0.84g based on results from the OSHPD Seismic Design Maps Web Services website: https://seismicmaps.org/

6.2.1 Surface Fault Rupture

Ground surface rupturing along faults, ground shaking, and liquefaction are three of the important seismic considerations for properties in Southern California. The site is not located within an Alquist-Priolo Earthquake Fault Zone (Hart, 1997) (formerly known as Special Studies Zones) or a LA City Preliminary Fault Rupture Study Area. Thus, the potential for ground surface rupture impacting the site is considered low.

6.2.2 Liquefaction

Based on California Department of Conservation (1998) Seismic Hazard Zones Map for the Van Nuys Quadrangle as shown in Figure 4, Seismic Hazard Zones, the site is not located within an area where is classified as potentially liquefiable. Liquefaction typically occurs when near surface (usually upper 50 feet), saturated, clean, fine-grained loose sands are subject to intense ground shaking. Liquified soils are subject to flow, consolidation, or excessive strain. Liquefaction typically occurs in loose to medium dense sand and silty sands soils below the groundwater table. Predominately, fine-grained soils, such as silts and clays are less susceptible to liquefaction.

As the project is not located in a designated liquefaction zone and based on the depth of groundwater, the potential for liquefaction-based settlement is considered to be negligible.

7.0 RECOMMENDATIONS

7.1 GENERAL

The recommendations for site grading and construction from the previous reports, dated August 27, 2004, for development of most improvements and February 11, 2014 for the baseball field backstops, approved by LADBS under Log Numbers 45346 and 83272, respectively, have been referenced for the development of this report. Copies of the referenced LADBS approval letters are included in Appendix B of this report. This report provides updated recommendations based on the results of the recent investigation and current subsurface conditions. The recommendations of the previous

reports shall apply as referenced herein.

Our primary geotechnical considerations with respect to the proposed construction are the presence of landfill material and quality of existing fill materials. Based on our consideration of previous reports and analysis of data collected during the current subsurface investigation, new structural improvements may be supported on shallow spread and continuous foundations bearing on properly compacted fill material.

Detailed geotechnical engineering recommendations addressing the surficial soils, site preparation, site earthwork, foundations, retaining walls and slabs-on-grade are presented in the remaining portions of this report. The following opinions, conclusions, and recommendations are based on the properties of materials encountered in the exploratory borings and laboratory test results.

A representative of GED will need to provide observation and testing services during site earthwork and construction of foundations. This will allow us the opportunity to compare actual conditions with those encountered in the exploratory borings and, if necessary, to expedite supplemental recommendations if warranted by the exposed subsurface conditions. We shall also review the preliminary foundation and earthwork plans and specifications. This review will provide us an opportunity to detect misinterpretation or misunderstandings of our recommendations prior to the start of construction.

7.2 Site Preparation and Earthwork

The recommendations of this Section shall apply for areas of the proposed improvements on the south side of the project area, outside the limits of the former landfill and for the parking lot, as indicated. For the baseball backstop within the area of the former landfill, the recommendations from GED's letter, dated February 11, 2014, apply and shall be used.

7.2.1 Site Clearing

Prior to construction, all organic or inorganic materials shall be removed from the construction area and disposed of outside the site. Any existing structural or landscape elements within these areas, including any foundation elements, shall be demolished and removed from the site. Any utilities, whether active or inactive, shall be identified and removed from the site or relocated per project plans and specifications. Any cavities resulting from removal of any existing foundations or utility lines shall be properly backfilled and compacted in accordance with the sections below.

7.2.2 Over-Excavation

All existing fill materials within the area of the proposed building or other structural foundations shall be over-excavated to suitable, undisturbed natural soil and replaced with compacted fill. Foundation areas shall be further over-excavated to a depth of 5

feet below existing or final grade or to a depth of 3 feet below the bottom of proposed footings, whichever is deepest, and replaced with compacted fill. Over-excavation depths may have to be greater in some areas to remove unsuitable soils. Removal excavations should extend a horizontal distance beyond the edges of the foundations equal to the depth of over excavation below the footings or a minimum of three feet, whichever is greater.

Below the basketball courts and playground areas, soils shall be over-excavated to a minimum of 3 feet below existing or final grade or 2 feet below the bottom of new improvements, whichever is deepest. Over-excavation shall extend laterally beyond the edge of the court slab or playground area of a distance of 3 feet or to site property lines, whichever is smaller. Additional excavation may be required to remove unsuitable soils, or existing fill below concrete slabs or new foundations.

The parking lot, other paved areas, and areas below non-structural planter and fence walls shall be over-excavated to a depth of at least 12 inches below existing grade, bottom of footing, or designed subgrade elevation, whichever is deepest. The excavation shall extend laterally beyond the edge of paving or footings a minimum distance of 3 feet or to site property lines, whichever is smaller. Additional excavation may be required to remove unsuitable soils, but removal of all fill materials below the required excavation depth is not necessary for these areas.

Except for portions of the parking lot and the baseball field and backstop, the site improvements are expected to be outside the limits of the landfill. Where any improvements are within the landfill limits, the recommended overexcavation is expected to be within the landfill cap, which is at least 10 feet thick in this area. However if any trash or evidence of landfill debris is encountered in any excavation, revised recommendations will be required.

7.2.3 Temporary Excavations

Based on our observations during subsurface investigation and results of laboratory tests, the materials at the site should be readily excavated by conventional earthmoving equipment in good operating condition. All temporary excavations shall conform to the State of California Construction Safety Orders (CAL/OSHA). Unsurcharged, temporary vertical excavations can be a maximum depth of 5 feet. Unsurcharged excavations greater than 5 feet and to a maximum of 15 feet shall be sloped at a (1:1) (H:V) or flatter inclination from the ground surface to the bottom of the excavation or should be shored. Excavations greater than 15 feet are not anticipated for the project. Any excavation that enters the influence zone of an adjacent structure or right-of-way subject to vehicle loading shall utilize slot cuts or shoring.

7.2.4 Temporary Shoring

Shoring may be designed in accordance with Section 306-1.1.6 of the Standard Specification for Public Works Construction, latest edition (SSPWC), Title 8, Division 1,

Chapter 4, Subchapter 4 of the California code of Regulations: CAL/OSHA Construction Safety Orders and/or the lateral earth pressure distributions recommended herein. Based on the soil classification of the Construction Safety Orders, the existing fill soils shall be considered to be Type B soil. Native sandy soils shall be considered to be Type C soils. Braced shoring can be designed using a uniform rectangular soil pressure of 33H pounds per square foot, where H is equal to the depth of the excavation in feet being shored. These design pressures assume a level backslope. These shoring pressures are for unsurcharged excavations only. If an existing improvement is within a distance equal to the total depth of excavation, additional recommendations for surcharge loads will be required.

A surcharge load equivalent to an additional 2 feet of retained soil shall be applied to the upper 10 feet of the shoring for light vehicular traffic or normal construction equipment anticipated to pass within 0.7H feet of the face of the shoring, or 20 feet, whichever is less.

If heavier traffic loads are anticipated near the top of the shoring, additional analysis will be required. Wheel or outrigger loads of heavy construction equipment that are located within a distance equal to 0.7H feet of the face of the shoring shall be considered as surcharge loads in shoring calculations.

All proposed shoring system designs including supporting documentation and calculations shall be submitted to GED for review and approval in reference to existing soil conditions. All shoring systems must meet the following minimum requirements to be considered for review:

- Shoring shall directly support the sides of the excavation. Shoring shall be designed to minimize the development and presence of voids behind shoring support.
- Shoring shall utilize solid sheeting or continuous support to minimize ground loss. Any voids developed behind shoring shall be immediately filled with clean sand (sand equivalent of 60 or greater) or Controlled Low Strength Material (CLSM) material.
- Shoring installation and removal procedures shall be designed so that no person is required to enter an unsupported excavation greater than 5 feet in depth at any time.

7.2.5 Subgrade Preparation

If soft, yielding, or unsuitable soils are exposed at the subgrade surface, then the unsuitable soils shall be removed and replaced with properly compacted fill soils. If additional removal causes an uneven bottom, GED may require additional excavation to provide a suitable subgrade transition. All exposed over-excavation bottoms shall be scarified to a minimum depth of 6 inches, moisture conditioned, and compacted to a minimum 90% relative compaction as determined by ASTM D1557. Subgrade soils with less than 15 percent clay content (finer than 0.005 mm) below new structural foundations shall be compacted to a minimum 95% relative compaction. Native sandy

soils at subgrade shall be moisture conditioned to 2 percent above optimum moisture content before compaction. The excavation bottom shall be observed, tested, and approved by a representative of GED and the City of Los Angeles Grading Inspector prior to placement of fill.

After the acceptance of the subgrade, fill material may be placed in accordance with the recommendations outlined below. Subgrade soils shall be kept moist (between 0 and 2 percent above the optimum moisture content), but not flooded until covered with subsequent fill or construction.

7.2.6 Fill Materials

Fill soils shall consist of on-site soils or approved import material. The on-site soils encountered during the geotechnical investigation are generally acceptable for use as fill material for this project. The upper 12 inches of fill beneath the slabs on grade and backfill within 18 inches behind retaining walls shall consist of non-expansive granular fill meeting the requirements of import material provided below. Before being used as fill, on-site soils shall be cleaned of all organic or inorganic debris and all materials with any dimension larger than 3 inches. Drying of wet site soils or mixing of these soils with dryer soils may be required prior to being used as compacted fill. Import material for use as fill for this project shall be predominantly granular (minimum 80% passing number 4 sieve and 35% or less passing the number 200 sieve), non-expansive (EI less than 20), and shall be free of organic or inorganic debris, contamination and materials with any dimension larger than 3 inches. Import material shall be tested and approved by GED prior to importing to the job site. GED shall be notified a minimum of three working days prior to scheduled importing of soil to the project site.

7.2.7 Fill and Backfill Placement

Structural fill shall only be placed on approved surfaces/subgrades prepared in accordance with Section 7.2.5 of this report. Fill material shall be placed in loose lifts not exceeding 8 inches in thickness, moisture-conditioned between 0 to 2 percent over the optimum moisture content and mechanically compacted. Fills shall be compacted to a minimum 90% relative compaction as determined by ASTM Test Method D1557. Fill soils with less than 15 % clay content placed for structural foundations shall be compacted to a minimum of 95 percent relative compaction. Fill soils placed in non-structural areas such as paved areas, fence or site wall areas, sidewalks, and landscaped areas shall be compacted to a minimum of 90 percent relative compaction. On-site fine-grained soils placed as fill shall be moisture conditioned to between 0 and 2 percent above optimum moisture content. Any aggregate base should be moisture-conditioned between optimum and two percent above optimum-moisture and compacted to a minimum of 95 percent relative compaction. Fill compaction shall be tested and recorded by a certified compaction testing agency working under the direct supervision of GED. Densification by flooding or jetting is not allowed. Compacted fill soils shall be kept moist, (at or slightly above the specified moisture content at the time of compaction) but not flooded, until covered with subsequent construction. If fill soils

are softened or eroded by excessive moisture or construction disturbance, they shall be replaced or recompacted at the discretion of the Geotechnical Engineer before additional fill or construction is placed. Certification and inspection approvals for compromised soils are void and invalid.

7.2.8 Trench Backfill

Trench excavations for utility pipes may be backfilled with onsite soils. After utility pipes have been laid, properly bedded, and covered per the project specifications, they shall be backfilled to the ground surface or design subgrade with controlled backfill. Controlled backfill shall be moisture-conditioned, placed, and compacted in accordance with the recommendations presented in Section 7.2.7 of this report.

7.2.9 Fill Certification

At the completion of fill operations, GED will issue a Compaction Certification for the fill. Unless approved by the Building Inspector during construction, the Contractor shall not pour structural footings until an approval letter is issued by the Department of Building and Safety, Grading Division for the Compaction Certification. The Contractor may excavate in compacted fill for foundation elements before the fill certification approval letter is issued, but does so at his/her own risk.

7.3 New Foundations

7.3.1 Structure Foundations

Based on our understanding of the proposed construction and the characteristics of the on-site soils, proposed structures may be supported on conventional continuous and/or spread footings founded on compacted fill outside the limits of the former landfill. Footings shall be founded over at least 3 feet of properly compacted fill material and at least 24 inches below the lowest adjacent grade. A minimum width of 12 inches for continuous footings and 18 inches for column footings is recommended. Footings with these minimum sizes may be designed for a net allowable vertical bearing pressure of 2,000 pounds per square foot (psf) for dead-plus-live loads. A one-third increase may be used for short term loading conditions such as wind or seismic forces.

We recommend that all continuous footings be reinforced with a minimum of two No. 5 reinforcing bars at the top and bottom to provide structural continuity and to permit spanning of local irregularities. The structural engineer shall design the actual footing reinforcement.

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. A coefficient of friction of 0.36 may be assumed with dead-load forces. An allowable passive lateral earth pressure of 300 psf per foot of depth, to a maximum of 3,000 psf, may be used for sides of footings poured against properly compacted fill or native soils. This allowable passive pressure is applicable for

level (ground slope equal to or flatter than 5H:1V) conditions only. The allowable passive pressure may be increased by one-third of lateral loading due to wind or seismic forces.

Total static settlement of the structural foundations, designed and constructed in accordance with the recommendations presented herein, should not exceed ½-inch. Differential settlements should not exceed one-half of the total settlement between adjacent foundations.

7.3.2 Baseball Backstop Pile Foundations

The recommendations from GED's letter, dated February 11, 2014, for the proposed backstop pile foundation design are valid and shall be used for the Phase IIIC project.

7.4 Minor Retaining Walls

Minor retaining walls for landscape elements less than six feet in height may be designed per the recommendations of Section 3.7 of the August 27, 2004 report. Retaining walls greater than six feet in height will be subject to an additional lateral seismic load modeled as an inverted fluid pressure of 34 pcf starting at zero at the base of the wall and increasing to the top of the wall.

7.5 Planter and Fence Wall and Non-Structural Foundations

Spread footing foundations are suitable for the support of accessory walls less than 8 feet in height that are structurally isolated from new buildings or improvements. Footings with a minimum width of 18 inches and embedded a minimum of 12 inches below the lowest adjacent grade, bearing on suitable undisturbed natural soils or properly compacted fill soils, may be designed for an allowable bearing pressure of 1,000 pounds per square foot (psf). In addition, we recommend that separation joints be provided in the wall at increments of 25 feet or less.

We recommend that all continuous footings be reinforced with a minimum of two No. 5 steel reinforcing bars at the top and bottom to provide structural continuity and to permit spanning of local irregularities. The structural engineer should design the actual footing reinforcement.

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. A coefficient of friction of 0.36 may be assumed with dead-load forces. An allowable passive lateral earth pressure of 200 psf per foot of depth, to a maximum of 2,000 psf, may be used for sides of footings poured against undisturbed natural soils or properly compacted fill. This allowable passive pressure is applicable for level (ground slope equal to or flatter than 5:1, Horizontal:Vertical) conditions only.

Bearing values indicated above are for total dead-load and frequently applied live-loads.

The above vertical bearing may be increased by one-third for short durations of loading which will include the effect of wind or seismic forces. The allowable passive pressure may be increased by one-third of lateral loading due to wind or seismic forces.

7.6 PARKING LOT

As shown in Figure 2B, the proposed parking lot will extend into the limits of the former landfill. Portions of the parking lot within the landfill will be subject to significant settlement during the design life. Therefore, GED recommends that an alternative parking surface, such as decomposed granite or other material be used as a substitute for asphalt or rigid pavement within the landfill limits to more easily restore grade and drainage in the event of settlement. GED also recommends curbs and other linear features of the parking lot within and near the landfill areas include frequent structural joints to limit cracking and damage due to settlement.

For portions of the parking lot that use asphalt pavement, an R-value of 23 may be assumed for the design of the paving section.

8.0 PLAN REVIEW

The final grading and foundation plans and specifications should implement the recommendations presented in this report and should be reviewed by GED.

9.0 ADDITIONAL SERVICES

The construction process is an integral design component with respect to the geotechnical aspects of a project. Proper geotechnical observation and testing during construction is imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, the Geotechnical Engineer of Record shall be involved during the construction of the proposed development to observe compliance with the design concepts and geotechnical recommendations.

10.0 CLOSURE

If there are any questions regarding this report, please contact Benjamin Moore at (213) 847-0538.

Benjamin Moore, G.E 2858
Geotechnical Engineer II

Erkan M. Tan, CE44596
Structural Engineering Associate II

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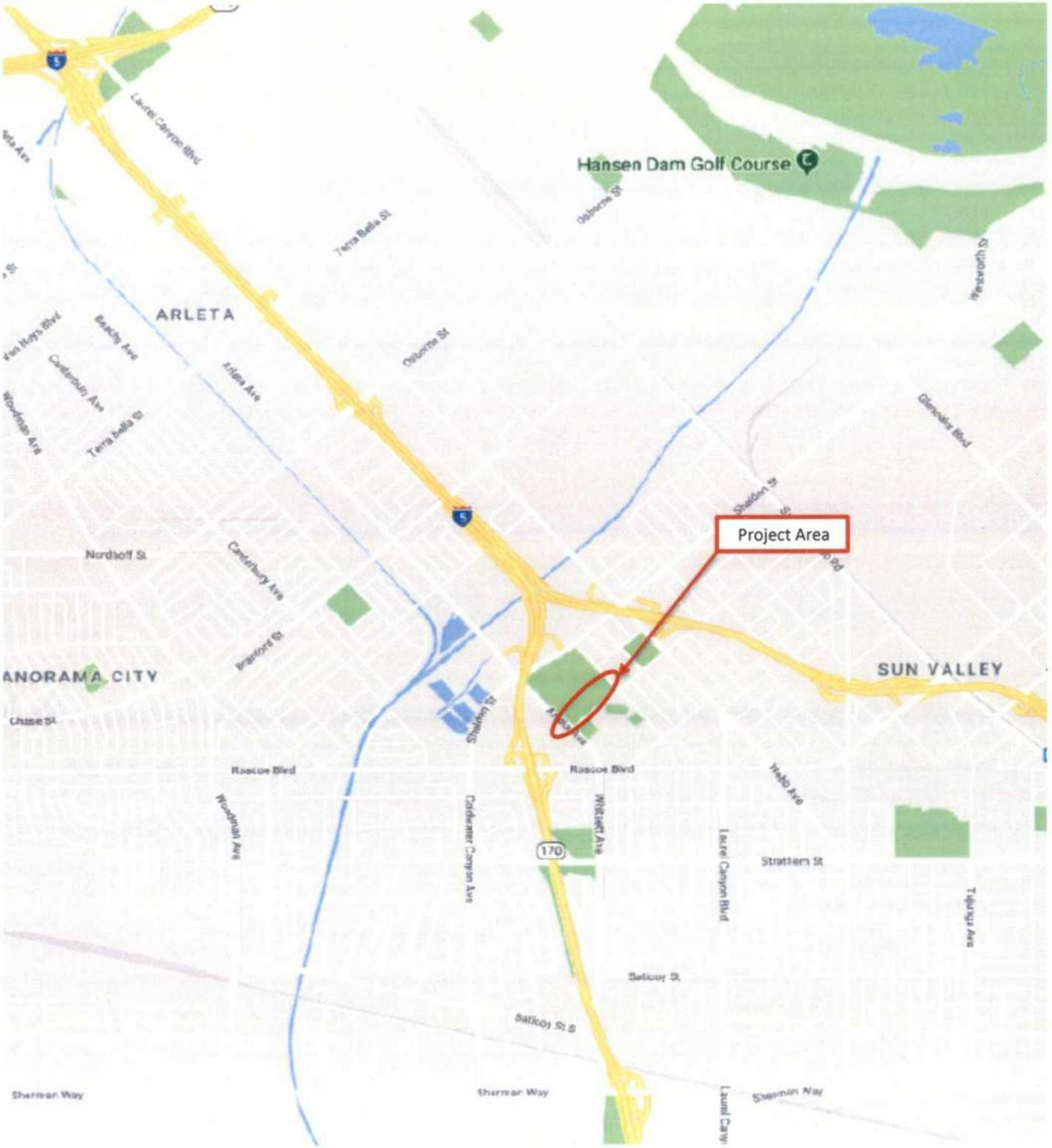
FIGURES

Figure 1 – Vicinity Map
Figure 2A – Boring Location Map (West)
Figure 2B – Boring Location Map (East)
Figure 3 – Historic Groundwater
Figure 4 – Seismic Hazard Zones

APPENDIX A: Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Boring Investigation and Data Report, May 17, 2019

APPENDIX B: Los Angeles Department of Building and Safety Approval Letters issued under Log Numbers 45346 and 83272.

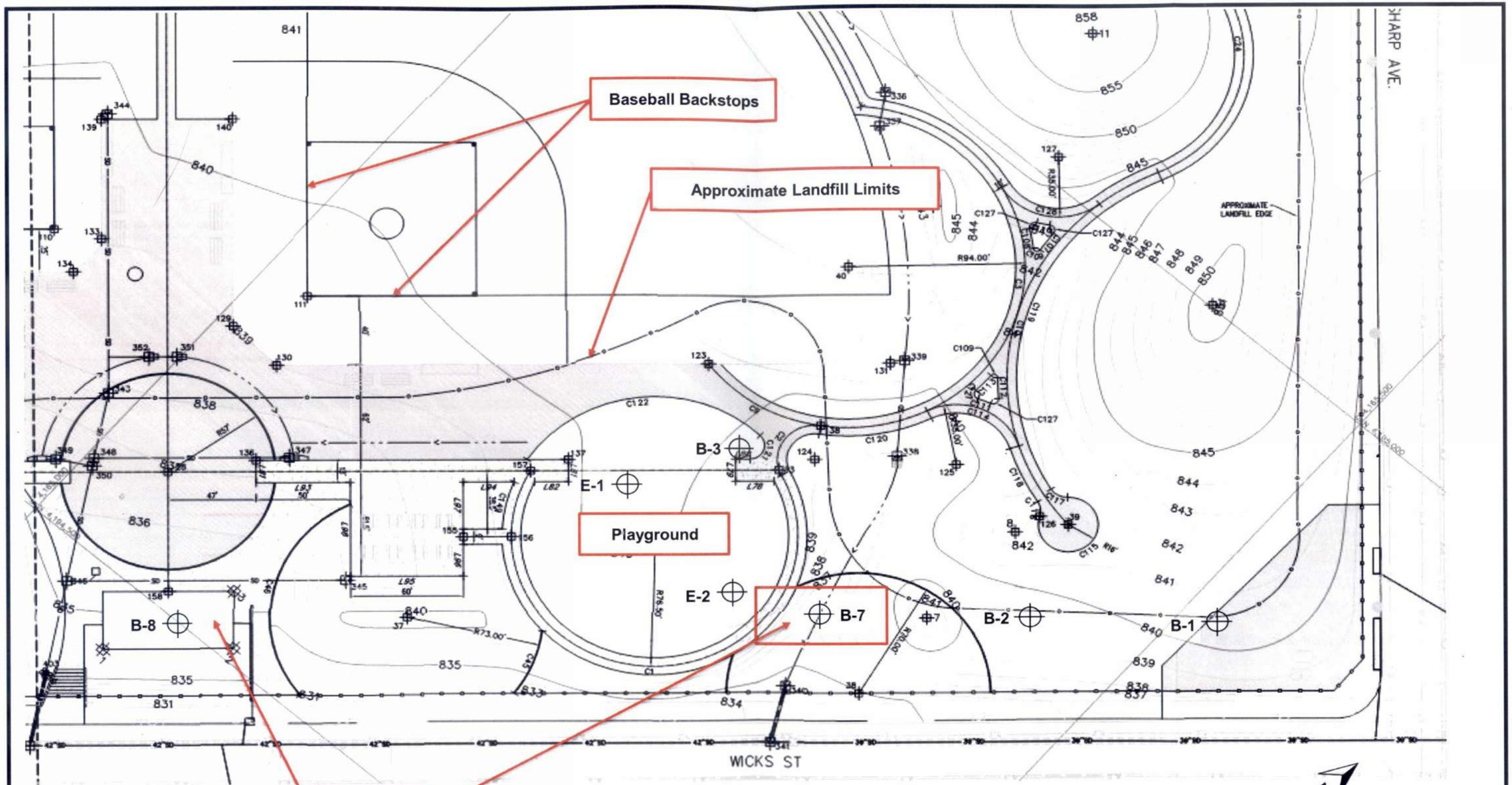
FIGURES



Site Vicinity Map

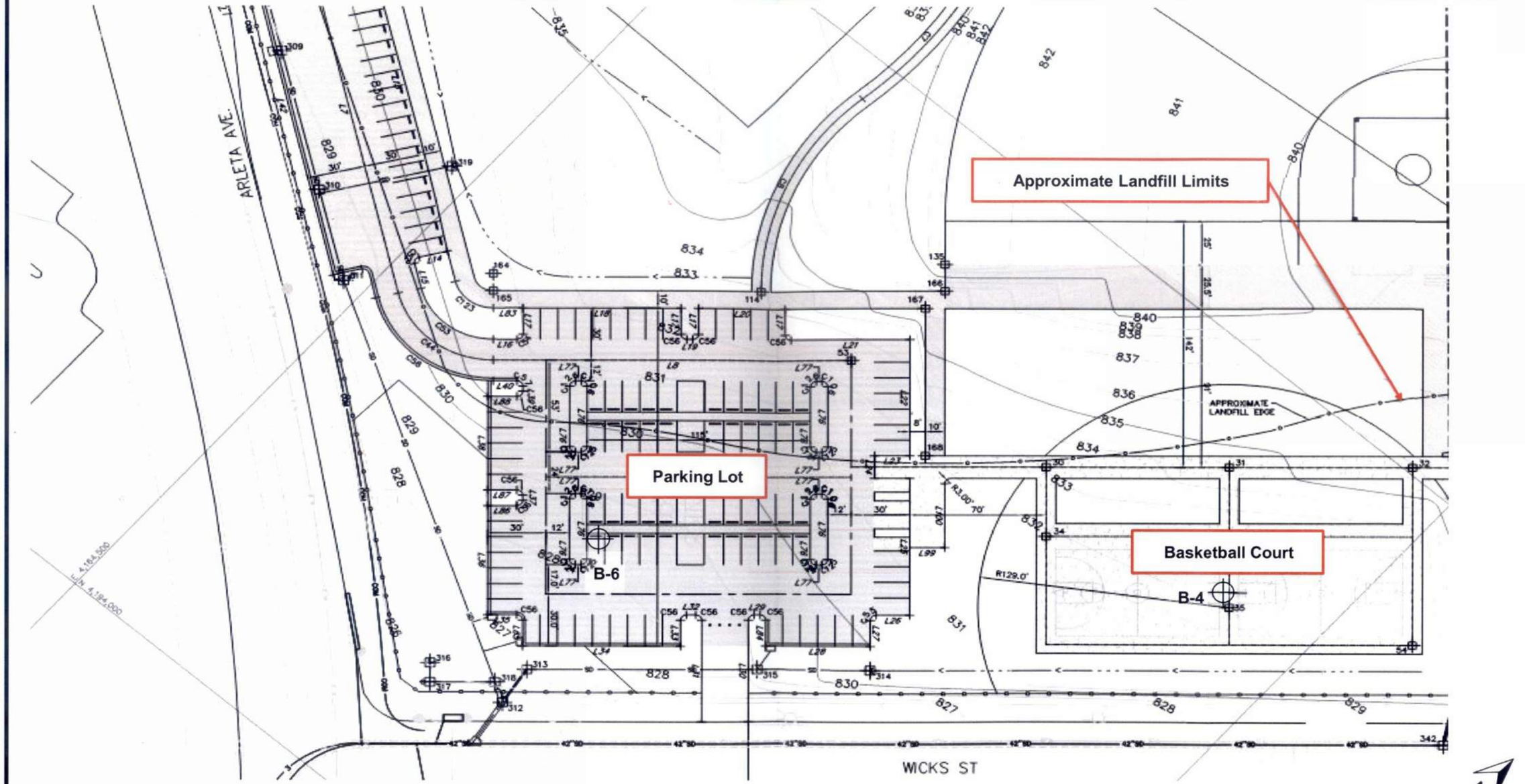
Not to scale

Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B** **LOS ANGELES, CALIFORNIA**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: JUNE 2019	**FIGURE No. 1**



Borings Location Map (East)

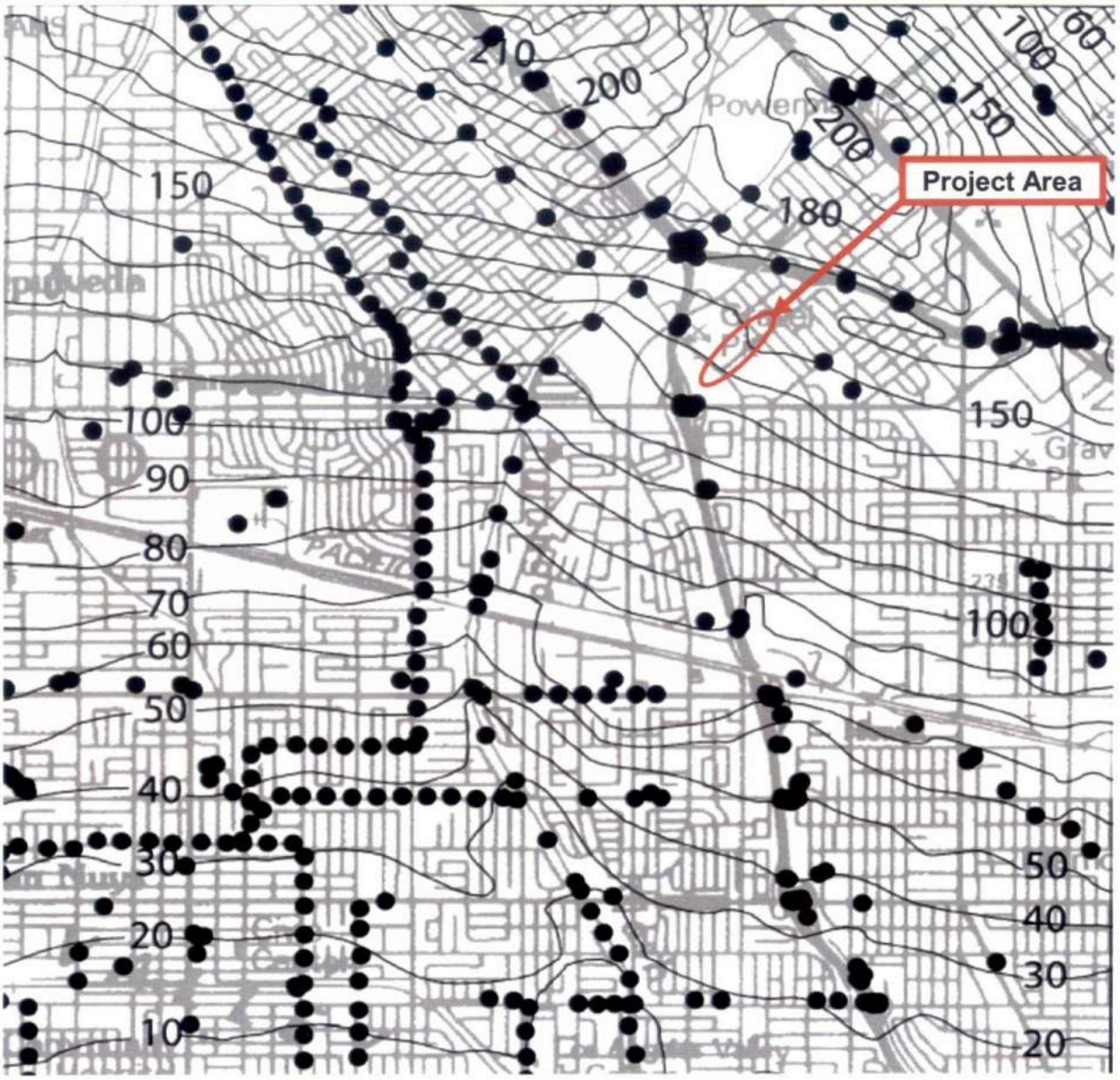
Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B** **LOS ANGELES, CALIFORNIA**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: JUNE 2019	**FIGURE No. 2A**



Borings Location Map (West)

Not to scale

Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B** **LOS ANGELES, CALIFORNIA**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: JUNE 2019	**FIGURE No. 2B**



Reference: California State Department of Conservation, Division of Mines and Geology, Seismic Hazard Zone Report for the Van Nuys 7.5-Minutes Quadrangle, Los Angeles County, California, 1997.

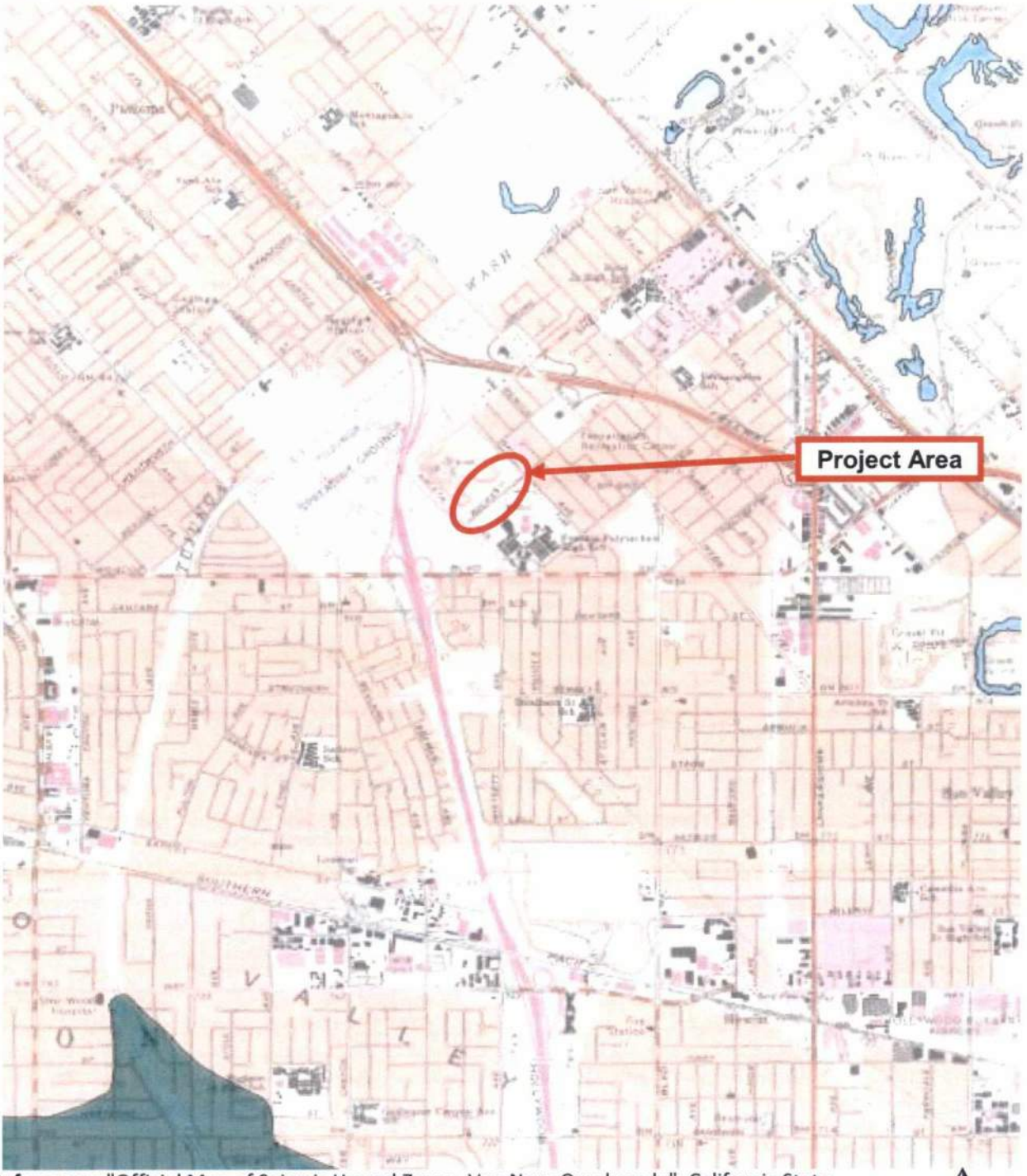
— 50 — Depth to ground water, in feet

N

Not to scale

Historic Groundwater

Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B** **LOS ANGELES, CALIFORNIA**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: JUNE 2019	**FIGURE No. 3**



References: "Official Map of Seismic Hazard Zones, Van Nuys Quadrangle", California State Department of Conservation, Division of Mines and Geology, 1998.

N

Not to scale

Seismic Hazard Zones

Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B** **LOS ANGELES, CALIFORNIA**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: JUNE 2019	**FIGURE No. 4**

APPENDICES

APPENDIX A

(Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Boring Investigation and Data Report, May 17, 2019)

KLEINFELDER
Bright People. Right Solutions.

May 17, 2019
Kleinfelder Project No. 20190264.003A

Mr. Patrick J. Schmidt, P.E., G.E.
City of Los Angeles Bureau of Engineering
Geotechnical Engineering Division
1149 S. Broadway, Suite 120
Los Angeles, California 90015-2213

SUBJECT: Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation and Data Report
12455 West Wicks Street
Los Angeles, California
W.O. #E170163B, GED File #03-053

Dear Mr. Schmidt:

Kleinfelder, Inc. (Kleinfelder), is pleased to present this data report summarizing our geotechnical and environmental field exploration and laboratory testing performed for the proposed site development and improvements for the subject site, located at 12455 West Wicks Street, Los Angeles, California. The project limits of the site in relation to other topographic features are shown on Figure 1, Site Vicinity Map. This data report presents the results of our soil borings conducted at the subject site and the laboratory testing results. The Logs of Borings are presented in Appendix A, Soil Boring Logs and the laboratory testing results are presented in this report, and in Appendix B, Geotechnical Laboratory Figures. Engineering analysis and recommendations for the subject project were beyond our authorized scope of services.

PROJECT DESCRIPTION AND SCOPE OF SERVICES

The project site is located at 12455 West Wicks Street, Los Angeles, California. The site is bounded by Arleta Avenue to the southwest, Wicks Street to the southeast, Sharp Avenue to the northeast, and Sheldon Arleta Park to the northwest. The project site also contains a reclaimed landfill at the location of a prior quarry, however, the locations of the borings do not appear to be within the existing landfill. As presented in the Task Order Solicitation (TOS), the limits of an underground storage tank were investigated based on the use of ground penetrating radar (GPR).

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The authorized scope of services for this project consisted of the following tasks:

- A site walk, Geo-Physical & USA clearance, and project management;
- Preparation of a Health and Safety Plan;
- Drilling and sampling of 7 engineering borings and 2 environmental borings at the site;
- Environmental screening of soil samples;
- Environmental testing for disposal of investigation derived waste (IDW);
- Backfilling of borings B-1, B-2, B-3, B-4, B-6, E-1, and E-2 with cement-bentonite grout or soil cuttings for B-7, and B-8;
- Sample delivery to AP Engineering for performance of a geotechnical laboratory testing program, and;
- Preparation of this data report.

FIELD EXPLORATION

Health and Safety Plan

Prior to initiation of field activities, Kleinfelder prepared a site-specific health and safety plan, a copy of which was provided to GED and used by our field personnel. Kleinfelder and subcontractor personnel involved with field sampling activities were California Occupational Safety and Health trained for Hazardous Waste Operation Standards (29 CFR 1910.120). Personnel were briefed on safety procedures to be implemented during the daily field activities, however, field work was completed without incident.

Site Walk and Utility Clearance

Dan Philo, a Kleinfelder staff professional, mobilized to the site on February 21, 2019 and marked the boring locations designated in the TOS. Underground Service Alert was contacted a minimum of 48 hours prior to the initiation of field activities. We also contracted PC Locators, of La Crescenta, to perform a geophysical survey in the area of the suspected underground storage tank. This service was performed on March 13, 2019.

We did not positively identify the presence of the tank. The investigated location is approximately 345 feet, east from the fence on Sharp Avenue, and approximately 18 feet north from the fence on Wicks Street and measures an area approximately 12 feet by 22 feet. A summary report from PC Locators is presented in Appendix D, Geophysical Summary Report.

Geotechnical Soil Sampling

Hollow stem auger borings B-1, and B-2, were advanced on March 13, 2019, and borings B-3, B-4, and B-6 were advanced on March 14, 2019. Once authorized, we returned to the site to perform borings B-7 and B-8 on April 22, 2019. The hollow stem auger drill rig was provided by BC2 Environmental Drilling of Orange, California. In an effort to avoid utility lines, prior to drilling, the upper 5 feet of each boring was hand excavated using hand auger equipment. The hollow stem auger borings were advanced to a maximum depth of approximately 26.5 feet below existing grade.

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Dan Philo, a staff professional with Kleinfelder logged the borings, performed environmental sample screening as described in the following sections, and collected the geotechnical soil samples. The soil samples were driven with a 140-lb automatic hammer falling 30 inches. The blow counts on boring logs indicate the number of blows necessary to drive a California-type sampler 18 inches, recorded in 6-inch increments. The soil excavated from the borings was placed in drums onsite until proper disposal could be performed. In accordance with the TOS, selected relatively undisturbed samples were retrieved, sealed and transported for further evaluation and testing.

The soil materials encountered were classified and logged in accordance with the Unified Soil Classification System (USCS). An explanation of the logs is presented on Figures A-1 and A-2. The Logs of Borings are presented on the attached Figures A-3 through A-9, Log of Borings. The approximate locations of the borings are shown on Figure 2, Boring Location Map.

Groundwater was not encountered in any of the borings.

Environmental Soil Sampling

Hollow stem auger borings E-1, and E-2, were advanced on March 14, 2019. The hollow stem auger drill rig was provided by BC2 Environmental Drilling of Orange, California. In an effort to avoid utility lines, prior to drilling, the upper 5 feet of each boring was hand excavated using hand auger equipment. The hollow stem auger borings were advanced to a maximum depth of approximately 11.5 feet below existing grade.

Dan Philo, a staff professional with Kleinfelder logged the borings, performed environmental sample screening as described in the following sections, and collected the environmental soil samples. The soil samples were driven into the hollow stem auger boring with a 140-lb downhole hammer falling 30 inches. The blow counts on boring logs indicate the number of blows necessary to drive a SPT-type sampler 18 inches, recorded in 6-inch increments. The soil excavated from the borings was placed in drums onsite until proper disposal could be performed. In accordance with the TOS, selected relatively undisturbed samples were retrieved, sealed and transported for further evaluation and testing.

Field sampling and preservation procedures, sample handling, and chain-of-custody procedures were consistent with USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) protocol. The environmental borings were backfilled with cement bentonite grout to the surface.

Equipment that came into contact with potentially contaminated soil was cleaned prior to reuse. Heavy equipment such as drilling augers, downhole drilling tools, bits, and other drilling equipment was cleaned as described below.

- Internal and external surfaces were steam-cleaned with a mixture of potable water and non-phosphate detergent. Equipment was scrubbed to remove all visible potential contaminants.
- Internal and external surfaces were rinsed with potable water until rinsate water appears clean.

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Prior to use at each sampling location and after each soil sample was collected, sampling equipment that comes into direct contact with samples will be cleaned as described below.

- The equipment was washed with non-phosphate detergent and potable water.
- The equipment was rinsed with potable water.
- The equipment was rinsed with distilled water.
- The equipment was allowed to air dry.

Water used for decontamination was collected in United Nations/Department of Transportation (UN/DOT)-approved, labeled, 55-gallon steel drums, and temporarily stored on Site pending receipt of the results of laboratory analyses required for waste profiling.

The soil materials encountered were classified and logged in accordance with the Unified Soil Classification System (USCS). An explanation of the logs is presented on Figures A-1 and A-2. The Logs of Borings are presented on the attached Figures A-10 through A-11, Log of Borings. The approximate locations of the borings are shown on Figure 2, Boring Location Map.

Groundwater was not encountered in any of the environmental borings.

Environmental Sample Screening

Soil samples were screened in the field for Volatile Organic Compounds (VOCs) with a PID MiniRAE3000 and the Lower Explosive Limit (LEL) was measured using a MultiRAE PID+ four-gas meter. The LEL and VOC readings are presented on the boring logs in Appendix A.

Soil Containment and Disposal

Soil cuttings generated from the borings were contained in five 55-gallon drums and water generated during decontamination of the equipment was contained in a single 55-gallon drum. Samples of the containerized materials were transported to an environmental laboratory for testing of environmental constituents needed to properly dispose of the soil. Based on the analytical results, TPH, VOCs, title 22 metals, PCBs, PAHs, and SVOCs are all below regulatory or health and safety thresholds at the time of our assessment. The environmental testing results will be provided to a City of LA certified Women-Owned Business Enterprise (WBE) and Small Business Enterprise (SBE) for disposal. At the time of this report the investigation derived waste (IDW) was stored onsite pending receipt of analytical results.

GEOTECHNICAL LABORATORY TESTING

Geotechnical laboratory tests were performed on representative drive samples to estimate engineering characteristics of the various earth materials encountered. Testing was performed in accordance with applicable standards by AP Engineering and Testing of Pomona, California.

The type and number of tests performed were selected by the City of Los Angeles, Department of Public Works / Geotechnical Engineering Division (GED). A summary of the tests performed is presented in the following sections.

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Laboratory Moisture and Dry Unit Weight Determinations

Natural moisture content and dry density tests were performed on selected relatively undisturbed samples collected. The moisture content tests were performed in general accordance with ASTM Test Method D 2216. The results are presented on the Logs of Borings and are summarized in Table 1, Moisture Content and Dry Unit Weights.

Table 1
Moisture Content Determinations and Dry Unit Weights

BORING	SAMPLE NUMBER	DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)
B-1	B-1-2	5-5.5	11.2	112.6
B-1	B-1-3	10-10.5	3.4	110.5
B-1	B-1-4	15-15.5	6.3	109.4
B-1	B-1-6	25-25.5	1.7	120.0
B-2	B-2-2	5-5.5	11.3	120.0
B-2	B-2-3	10-10.5	4.2	106.6
B-2	B-2-4	15-15.5	1.7	102.7
B-2	B-2-5	20-20.5	2.2	108.1
B-3	B-3-2	5-5.5	3.7	107.0
B-3	B-3-3	10-10.5	3.3	101.9
B-3	B-3-4	15-15.5	1.8	105.5
B-4	B-4-2	5-5.5	2.0	103.3
B-4	B-4-3	10-10.5	4.8	81.5
B-6	B-6-2	5-5.5	14.7	105.8
B-6	B-6-3	10-10.5	1.3	110.7
B-7	B-7-2	6-6.5	5.1	106.6
B-7	B-7-3	11-11.5	8.8	111.7
B-8	B-8-2	6-6.5	4.7	114.1
B-8	B-8-3	11-11.5	1.1	101.1

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Wash Sieve Analysis

Wash sieve analysis was performed on three samples of the materials encountered at the site to evaluate the quantity of particles finer than the #200 sieve. Tests were performed in general accordance with ASTM Test Method D1140. Results of these tests are presented Table 2, Wash Sieve Analysis Results.

Table 2
Wash Sieve Analysis Results

BORING	SAMPLE NUMBER	DEPTH (ft)	PERCENT FINES (%)
B-1	B-1-3	10-10.5	31.2
B-8	B-8-1	0-5	26.2
B-8	B-8-2	6-6.5	26.7

Sieve Analysis

Sieve analysis was performed on 5 samples of the materials encountered at the site to evaluate the grain size distribution characteristics of the soils and to aid in their classification. Tests were performed in general accordance with ASTM Test Method D 6913. Results of these tests are presented as Figures B-1 and B-2, Grain Size Distribution Curve in Appendix B, Geotechnical Laboratory Figures.

Atterberg Limits

Plasticity index testing was performed on selected samples of the on-site soils to determine plasticity characteristics and to aid in the classification of the soil. The testing was performed in accordance with ASTM Standard Test Method D4318. The locations of the samples selected for testing are presented adjacent to the appropriate samples on the Logs of Borings, and as Figures B-3 and B-4, Atterberg Limits in Appendix B, Geotechnical Laboratory Figures.

Direct Shear

Direct shear testing was performed on three relatively undisturbed samples, and one disturbed sample that was remolded to 95% Relative Compaction. The tests were conducted to evaluate the soil shear strength parameters in general accordance with ASTM Standard Test Method D 3080. The soil samples were soaked to near saturation prior to testing. The results are presented as B-5, B-6, B-7, and B-8, Direct Shear Test Results.

Consolidation

Consolidation testing was performed on three relatively undisturbed samples, and two disturbed samples that were remolded to 95% Relative Compaction. The tests were conducted in general accordance with ASTM Standard Test Method D 2435. The results are presented as B-9, B-10, B-11, B-12, and B-13, Consolidation Curve in Appendix B, Geotechnical Laboratory Figures.

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Maximum Density and Optimum Moisture

Maximum dry density and optimum moisture testing was performed on bulk samples of the on-site soils to determine compaction characteristics. The tests were performed in accordance with ASTM Standard Test Method D1557. The test results are presented in Table 3, Maximum Dry Density and Optimum Moisture.

Table 3
Maximum Density and Optimum Moisture

BORING	SAMPLE NUMBER	DEPTH (ft)	MAXIMUM DENSITY (pcf)	OPTIMUM MOISTURE (%)
B-2	B-2-1	0-5	130.4	9.1
B-3	B-3-1	0-5	130.7	7.0

R-Value

Resistance Value (R-value) testing was performed on a select bulk soil sample to evaluate pavement support characteristics of the near-surface onsite soils. R-value testing was performed in accordance with ASTM Standard Test Method D2844. The test results are presented below in Table 4, R-Value Test Results.

Table 4
R-Value Test Results

BORING	DEPTH (ft)	R-VALUE
B-6	0-5	23

Preliminary Corrosion Potential

A series of chemical tests were performed on a representative soil samples collected from the borings to estimate the minimum resistivity, pH, sulfate content, and chloride content. The test results may be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to the construction materials. The results of the tests are presented in Table 5, Corrosion Test Results.

Table 5
Corrosion Test Results

BORING	DEPTH (ft)	PH	SULFATE (ppm)	CHLORIDE (ppm)	MINIMUM RESISTIVITY (ohm-cm)
B-2	0 – 5	8.1	131	44	1489

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ENVIRONMENTAL LABORATORY TESTING

Selected soil samples were submitted to Advanced Technology, Laboratories in Long Beach, California to characterize the soil chemical constituents. Selected soil samples were analyzed for one or more of the following tests:

- Title 22 Metals by EPA Method 6010B and 7471A for mercury;
- Total Petroleum Hydrocarbons (TPH) by EPA Method 8015;
- Pesticides by EPA Method 8081;
- Herbicides by EPA Method 8151;
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270; and
- Volatile Organic Compounds (VOCs) by EPA Method 5030B/8260B.

The analytical results of the soil samples were compared to the following:

- US EPA Region 9 Regional Screening Levels (RSLs) (US EPA, 2018),
- California Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number 3 (DTSC-modified SLs) (DTSC, 2019), and
- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Tier 1 Environmental Screening Levels (ESLs).

Summaries of soil analytical results collected March 13, 2019 are summarized in Tables 1 through 6 and laboratory analytical report are presented in Appendix C.

TPH

The 10 soil samples were analyzed for total TPH and 2 of the soil samples were analyzed for TPH as gasoline, results are summarized in Table 1. Total TPH was present at a concentration of 70 milligrams per kilogram (mg/kg) in sample E-1-0.5. TPH as gasoline was not detected above its MDL in any samples.

VOCs

The 8 soil samples were analyzed for VOCs, results are summarized in Table 3. The analytical results of the VOCs were below reporting limits, and none exceeded the residential/commercial RSLs and ESLs.

Title 22 Metals

The 10 soil samples were analyzed for 22 title metals, results are summarized in Table 2. Expect for antimony, beryllium, cadmium, silver, thallium, and mercury, each of the analyzed metals was present at concentrations at or above its MDL in one or more of the samples. For

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each metal analyzed and reported above the laboratory reporting limit, the reported concentration range is as follows:

- Arsenic was present at a concentration at or above its MDL in 9 soil samples, which contained concentrations ranging from 1.0 mg/kg to 3.6 mg/kg.
- Barium was present at a concentration at or above its MDL in each of the soil samples, with concentrations ranging from 41 mg/kg to 850 mg/kg.
- Chromium was present a concentration at or above its MDL in each of the soil samples, with the concentrations ranging from 4.4 mg/kg to 20 mg/kg.
- Cobalt was present at a concentration at or above its MDL in soil each of the samples, with the concentrations ranging from 3.3 mg/kg to 6.5 mg/kg.
- Copper was present at concentrations at or above its MDL in each of the soil samples, which contained concentrations ranging from 5.1 mg/kg to 14 mg/kg.
- Lead was present at a concentration at or above its MDL in each of the soil samples, with the concentrations ranging from 1.8 mg/kg to 18 mg/kg.
- Molybdenum was present at concentrations at or above its MDL in 4 soil samples, which contained concentrations ranging from 1.1 mg/kg to 1.6 mg/kg.
- Nickel was present at a concentration at or above its MDL in each of the soil samples, with the concentrations ranging from 3.0 mg/kg to 17 mg/kg.
- Selenium was present at concentration above its MDL at a concentration of 1.1 mg/kg.
- Silver was present at concentrations at or above its MDL in 14 soil samples, which contained estimated concentrations ranging from 0.871 J mg/kg to 2.55 J mg/kg.
- Vanadium was present at a concentration at or above its MDL in each of the soil samples, with the concentrations ranging from 14 mg/kg to 29 mg/kg.
- Zinc was present at a concentration at or above its MDL in each of the soil samples, with the concentrations ranging from 17 mg/kg to 43 mg/kg.

Arsenic was present at concentrations that exceed the arsenic DTSC-modified SL for industrial soil of 0.36 mg/kg. However, reported background arsenic concentrations in southern California soils are as high as 12 mg/kg (DTSC, 2008). Arsenic concentrations were below background concentrations in southern California.

For the other 12 CCR Title 22 metals, each reported metal concentration was below its respective residential/commercial RSLs and ESLs.

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Pesticides/Herbicides

Two soil samples were analyzed for pesticides/herbicides and the results are summarized in Table 4. Trace amounts of pesticides/herbicides were detected in sample E-1 at 0.5 feet bgs. These pesticides/herbicides (with their respective maximum reported concertation indicated in parentheses) include:

- 4,4'-DDD (24 µg/kg);
- 4,4'-DDE (210 µg/kg); and
- 4,4'-DDT (230 µg/kg).

The concentration of these pesticides/herbicides are below their respective residential/commercial RSLs and ESLs. Other pesticides/herbicides were not present in the analyzed samples at concentrations at or above their respective MDLs.

PCBs

One soil sample was analyzed for PCBs, results are summarized in Table 5. The analytical results of the PCBs were below reporting limits, and none exceeded the residential/commercial RSLs and ESLs.

PAHs

The 2 soil samples were analyzed for VOCs, results are summarized in Table 6. The analytical results of the VOCs were below reporting limits, and none exceeded the residential/commercial RSLs and ESLs.

Based on the analytical results, TPH, VOCs, title 22 metals, PCBs, PAHs, and SVOCs are all below regulatory or health and safety thresholds at the time of our assessment.

LIMITATIONS

The findings presented in this data report were prepared in a manner consistent with the standards of care and skill ordinarily exercised by members of our profession practicing under similar conditions in the geographic vicinity and at the time the services will be performed. No warranty or guarantee, express or implied, is made.

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CLOSURE

We appreciate the opportunity to be of service on this project. If you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

KLEINFELDER



Russell P. Ferryman
Staff Professional

Jeffery D. Waller, PE, GE
Senior Geotechnical Engineer

Attachments: Figures
Tables
Appendix A – Soil Boring Logs
Appendix B – Geotechnical Laboratory Figures
Appendix C – Environmental Laboratory Test Results
Appendix D – Geophysical Summary Report

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FIGURES

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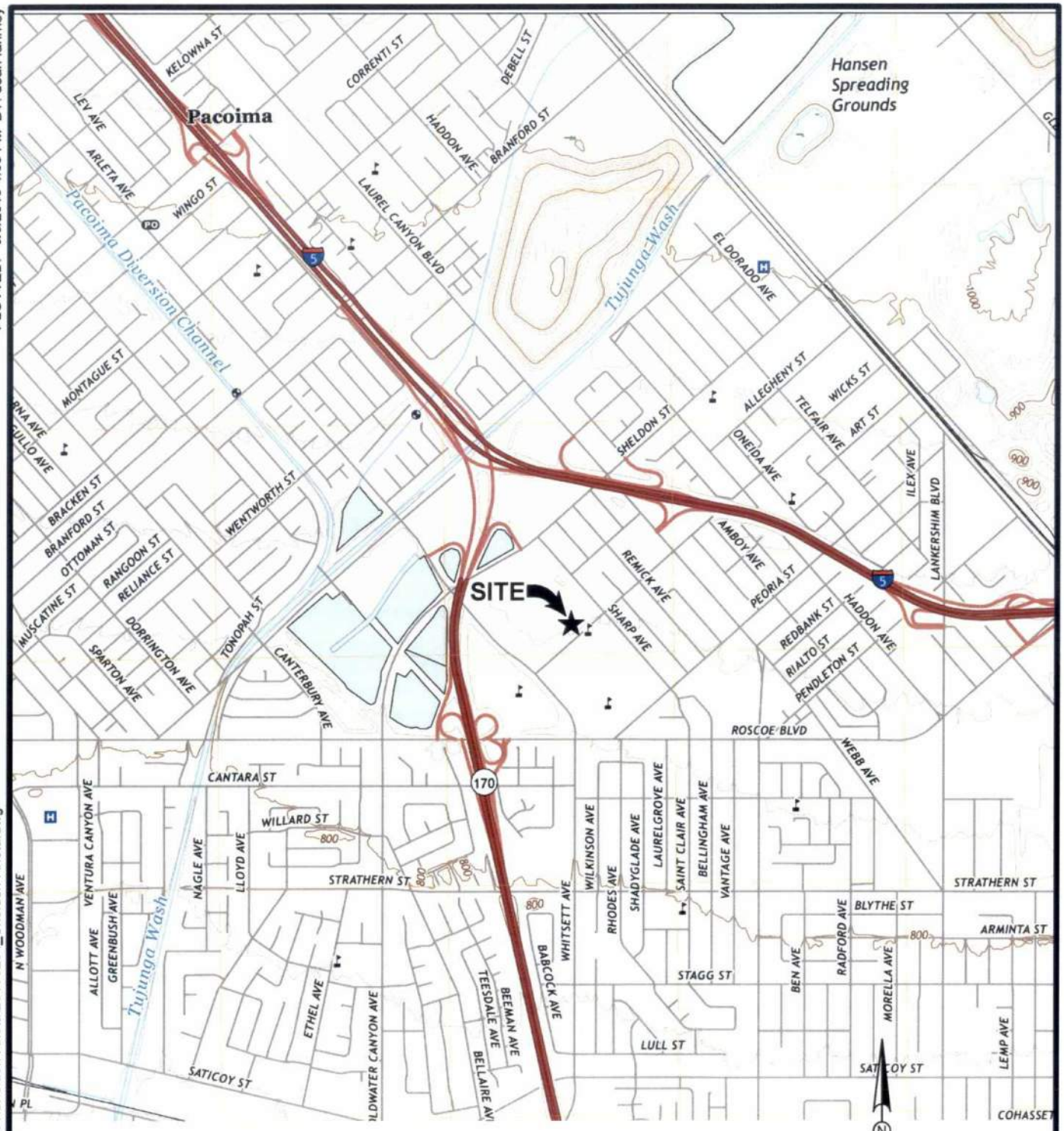

SOURCE: U.S.G.S. 7.5' Topographic series, Van Nuys, California Quadrangle 2018.

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APPROXIMATE SCALE (feet)

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SITE VICINITY MAP

Sheldon Arleta Park Phase IIIC - Engineering and Environmental Soil Borings Investigation and Data Report
12455 West Wicks Street
Los Angeles, California

FIGURE 1

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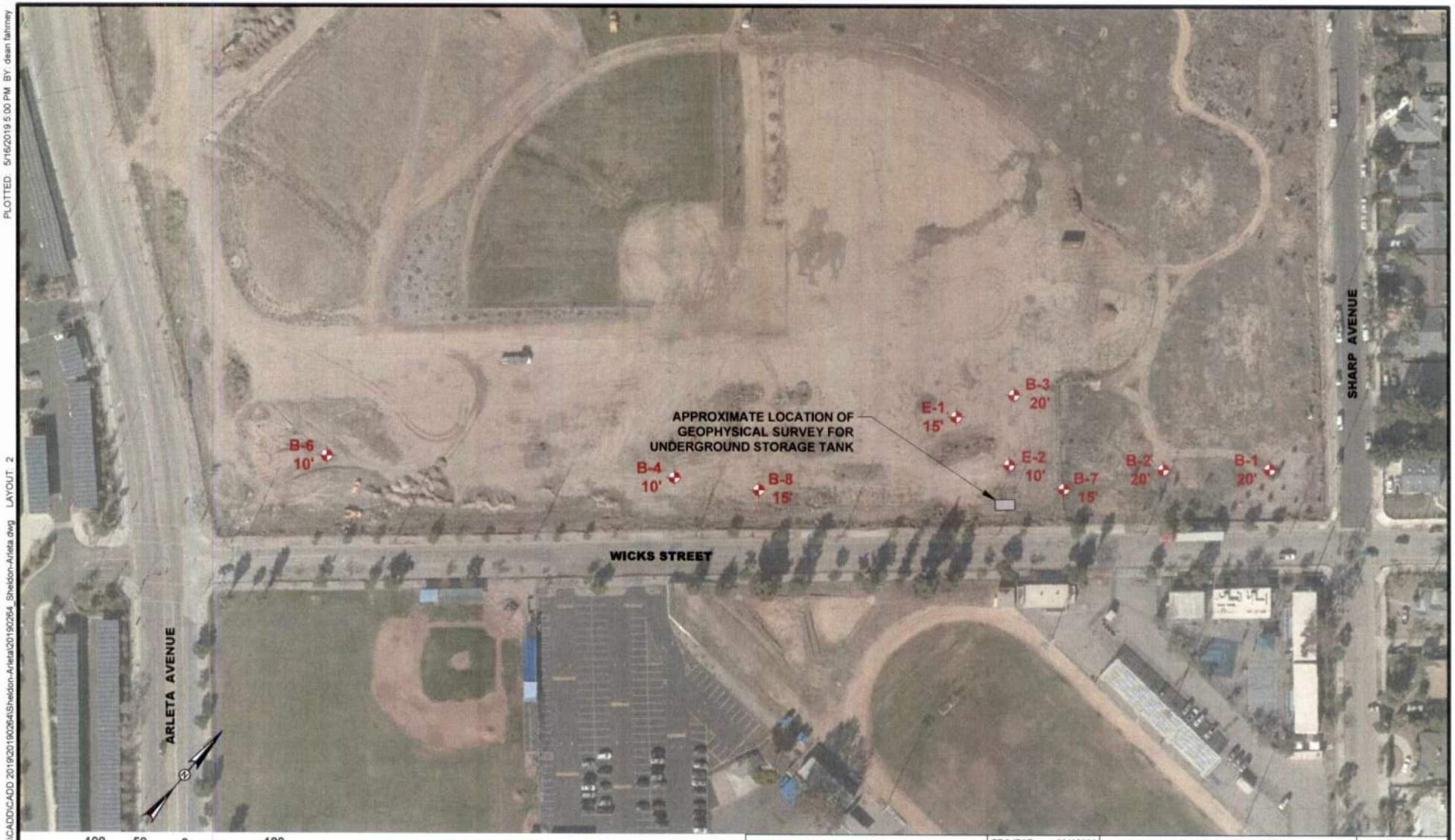

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APPROXIMATE SCALE (feet)

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EXPLANATION

B-8 / 15' — APPROXIMATE BORING NUMBER, LOCATION, AND TOTAL DEPTH IN FEET

B - ENGINEERING BORING
E - ENVIRONMENTAL BORING

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BORING LOCATION MAP

Sheldon Arleta Park Phase IIIC - Engineering and Environmental Soil Borings Investigation and Data Report
12455 West Wicks Street
Los Angeles, California

FIGURE
2

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TABLES

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Table 1
Soil Analytical Results - TPH
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	TPHg (mg/kg)	TPH (mg/kg)
RSL - Residential			**82**	**NL**
RSL - Commercial/Industrial			**420**	**NL**
ESL - Residential			**430**	**NL**
ESL - Commerical/Industrial			**2,000**	**NL**
E-2-0.5	03/13/19	0.5	NA	ND<50
E-2-1.0	03/13/19	1	NA	ND<50
E-2-2.5	03/13/19	2.5	NA	ND<50
E-2-5.0	03/13/19	5	ND<0.83	ND<50
E-2-10.0	03/13/19	10	NA	ND<50
E-1-0.5	03/13/19	0.5	NA	70
E-1-1	03/13/19	1	NA	ND<50
E-1-2.5	03/13/19	2.5	NA	ND<50
E-1-5.0	03/13/19	5	NA	ND<50
E-1-10.0	03/13/19	10	ND<0.88	ND<50

Notes:

TPH	Total petroleum hydrocarbons analyzed using EPA Method 8015B.
TPH-g	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
feet bgs	Feet below ground surface.
NA	Not analyzed/Not sampled/Not applicable.
mg/kg	Milligrams per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
RSL	US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted. RSL value used for TPH-g and TPH-d is TPH Aromatic Low and TPH Aromatic Medium, respectively.
ESL	Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
NL	Screening level not available.
J	Analyte was detected at a concentration below the laboratory reporting limit and above the laboratory detection limit. Reported value is estimated.
HD	Chromatagraphic profile inconsistent with pattern(s) of reference fuel standards
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

Table 2
Soil Analytical Results - Metals
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vandium (mg/kg)	Zinc (mg/kg)	Mercury (mg/kg)
RSL - Residential			**31**	**0.11^A**	**15000**	**16^A**	**910^A**	**NL**	**23.0**	**3,100.0**	**80^A**	**390**	**820^A**	**390**	**390**	**0.78^A**	**390**	**23,000**	**NL**
RSL - Commercial/Industrial			**470**	**0.36^A**	**220000**	**230^A**	**4,000^A**	**NL**	**350.0**	**47,000.0**	**320^A**	**5,800**	**11,000^A**	**5,800**	**5,800**	**12^A**	**5,800**	**350,000**	**NL**
ESL - Residential			**11**	**0.067**	**15000**	**1600**	**78**	**NL**	**420.0**	**3,100.0**	**80**	**390**	**820**	**390**	**390**	**1**	**390**	**23,000**	**NL**
ESL - Commercail/Industrial			**160**	**0.31**	**220000**	**6900**	**1100**	**NL**	**1,900.0**	**47,000.0**	**320**	**5,800**	**11,000**	**5,800.0**	**5,800**	**12.00**	**5,800**	**35,000**	**NL**
E-2-0.5	03/13/19	0.5	ND<2.0	2.6	81	ND<1.0	ND<1.0	13	5.6	11	5.7	ND<1.0	10	ND<1.0	ND<1.0	ND<1.0	26	35	ND<0.10
E-2-1.0	03/13/19	1	ND<2.0	3.5	93	ND<1.0	ND<1.0	16	6.6	14	3.2	1.6	17	ND<1.0	ND<1.0	ND<1.0	28	39	ND<0.10
E-2-2.5	03/13/19	2.5	ND<2.0	3.6	96	ND<1.0	ND<1.0	16	6.5	14	3.3	1.6	16	1.1	ND<1.0	ND<1.0	29	39	ND<0.10
E-2-5.0	03/13/19	5	ND<2.0	1.1	64	ND<1.0	ND<1.0	7.3	5	7.7	4	ND<1.0	5.3	ND<1.0	ND<1.0	ND<1.0	20	37	ND<0.10
E-2-10.0	03/13/19	10	ND<2.0	ND<1.0	41	ND<1.0	ND<1.0	4.4	3.3	6.7	1.8	ND<1.0	3.1	ND<1.0	ND<1.0	ND<1.0	14	25	ND<0.10
E-1-0.5	03/13/19	0.5	ND<2.0	3.1	87	ND<1.0	ND<1.0	14	5.9	12	4.5	1.3	13	ND<1.0	ND<1.0	ND<1.0	25	34	ND<0.10
E-1-1	03/13/19	1	ND<2.0	3.1	84	ND<1.0	ND<1.0	14	6.1	12	4.3	1.1	12	ND<1.0	ND<1.0	ND<1.0	25	34	ND<0.10
E-1-2.5	03/13/19	2.5	ND<2.0	1.9	59	ND<1.0	ND<1.0	10	4.6	8.2	3.1	ND<1.0	8.1	ND<1.0	ND<1.0	ND<1.0	19	25	ND<0.10
E-1-5.0	03/13/19	5	ND<2.0	3	850	ND<1.0	ND<1.0	20	5	19	18	ND<1.0	9.5	ND<1.0	ND<1.0	ND<1.0	23	43	ND<0.10
E-1-10.0	03/13/19	10	ND<2.0	1	43	ND<1.0	ND<1.0	4.7	3.5	5.1	2.3	ND<1.0	3	ND<1.0	ND<1.0	ND<1.0	14	17	ND<0.10

Notes:

feet bgs — Feet below ground surface.
mg/kg — Milligrams per kilogram.
ND< — Not detected above the indicated laboratory detection limit.
RSL — US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted..
ESL — Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
^ — Based on recommended screening level provided in California Environmental Protection Agency Department of Toxic Substance Control Office of Human and Ecological Risk' Human Health Risk Assessment Note No. 3, dated April 2019.
NL — Screening level not available.
Italic — Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold — Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded — Concentration exceeds ESL.

Table 3
Soil Analytical Results - VOCs
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	1,1,1,2-Tetrachloroethane (µg/kg)	1,1,1-Trichloroethane (µg/kg)	1,1,2,2-Tetrachloroethane (µg/kg)	1,1,2-Trichloroethane (µg/kg)	1,1-Dichlorothane (µg/kg)	1,1-Dichloroethene (µg/kg)	1,1-Dichloropropene (µg/kg)	1,2,3-Trichloropropane (µg/kg)	1,2,3-Trichlorobenzene (µg/kg)	1,2,4-Trichlorobenzene (µg/kg)	1,2-Dibromo-3-Chloropropane (µg/kg)	1,2-Dibromoethane (µg/kg)	1,2-Dichlorobenzene (µg/kg)	1,2-Dichloroethane (µg/kg)	1,2-Dichloropropane (µg/kg)
RSL - Residential			**550,000[A]**	**1,700,000[A]**	**700,000[A]**	**1,100**	**3,600**	**NL**	**NL**	**1.8[A]**	**40,000[A]**	**280,000[A]**	**4.3[A]**	**36**	**NL**	**460**	**2,500**
RSL - Commercial/Industrial			**2,700,000[A]**	**7,200,000[A]**	**4,300,000[A]**	**5,000**	**16,000**	**NL**	**NL**	**21[A]**	**300,000[A]**	**2,500,000[A]**	**67[A]**	**160**	**NL**	**2,000**	**11,000**
ESL - Residential			**2,000**	**1700000**	**610**	**1,200**	**3,600**	**NL**	**NL**	**23**	**NL**	**24,000**	**4**	**36**	**1,800,000**	**470**	**1,000**
ESL - Commercail/Industrial			**8,900**	**7,300,000**	**2,700**	**6,400**	**1,600**	**NL**	**NL**	**110**	**NL**	**110,000**	**59**	**160**	**9,400,000**	**2,100**	**4,400**
E-2-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-1.0	03/13/19	1	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<8.8	ND<4.4	ND<4.4	ND<4.4	ND<4.4
E-2-2.5	03/13/19	2.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<9.9	ND<4.5	ND<4.5	ND<4.5	ND<4.5
E-2-5.0	03/13/19	5	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<7.7	ND<3.9	ND<3.9	ND<3.9	ND<3.9
E-2-10.0	03/13/19	10	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<9.1	ND<4.6	ND<4.6	ND<4.6	ND<4.6
E-1-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-1	03/13/19	1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<8.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1
E-1-2.5	03/13/19	2.5	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<6.3	ND<3.2	ND<3.2	ND<3.2	ND<3.2
E-1-5.0	03/13/19	5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<11	ND<5.5	ND<5.5	ND<5.5	ND<5.5
E-1-10.0	03/13/19	10	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<8.9	ND<4.4	ND<4.4	ND<4.4	ND<4.4

Notes:

feet bgs	Feet below ground surface.
µg/kg	Micrograms per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
A	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019.
**	RSL is for m-xylene
RSL	US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted.
ESL	Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
J	Analyte was detected at a concentration below the laboratory reporting limit and above the laboratory detection limit. Reported value is estimated.
NL	Screening level not available.
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

Table 3
Soil Analytical Results - VOCs
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	1,3,5-Trimethylbenzene (µg/kg)	1,3-Dichlorobenzene (µg/kg)	1,3-Dichloropropane (µg/kg)	1,4-Dichlorobenzene (µg/kg)	2,2-Dichloropropane (µg/kg)	2-Chlorotoluene (µg/kg)	4-Chlorotoluene (µg/kg)	4-Isopropyltoluene (µg/kg)	Benzene (µg/kg)	Bromobenzene (µg/kg)	Bromochloromethane (µg/kg)	Bromodichloromethane (µg/kg)	Bromoform (µg/kg)	Bromomethane (µg/kg)	Carbon Disulfide (µg/kg)	Carbon Tetrachloride (µg/kg)	Chlorobenzene (µg/kg)	Chloroethane (µg/kg)
RSL - Residential			**270,000**	**31,000**	**410,000^A**	**780,000**	**NL**	**NL**	**NL**	**NL**	**330^A**	**290,000**	**150,000**	**290^A**	**19,000**	**6,800**	**770,000**	**52,000^A**	**280,000**	**NL**
RSL - Commercial/Industrial			**1,500,000**	**470,000**	**2,200,000^A**	**12,000,000**	**NL**	**NL**	**NL**	**NL**	**1,400^A**	**1,800,000**	**6,300,000**	**1,300^A**	**86,000**	**30,000**	**35,000,000**	**250,000^A**	**1,300,000**	**NL**
ESL - Residential			**NL**	**NL**	**NL**	**2,600**	**NL**	**NL**	**NL**	**NL**	**330.0**	**NL**	**NL**	**290**	**18,000**	**6,900**	**NL**	**100**	**270,000**	**14,000,000**
ESL - Commercail/Industrial			**NL**	**NL**	**NL**	**12,000**	**NL**	**NL**	**NL**	**NL**	**1,400**	**NL**	**NL**	**1,300**	**80,000**	**30,000**	**NL**	**440**	**1,300,000**	**59,000,000**
E-2-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-1.0	03/13/19	1	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4
E-2-2.5	03/13/19	2.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5
E-2-5.0	03/13/19	5	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9
E-2-10.0	03/13/19	10	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6
E-1-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-1	03/13/19	1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1
E-1-2.5	03/13/19	2.5	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2
E-1-5.0	03/13/19	5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5
E-1-10.0	03/13/19	10	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4

Notes:

feet bgs	Feet below ground surface.
µg/kg	Micrograms per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
^A	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019.
**	RSL is for m-xylene
RSL	US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted.
ESL	Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
J	Analyte was detected at a concentration below the laboratory reporting limit and above the laboratory detection limit. Reported value is estimated.
NL	Screening level not available.
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

Table 3
Soil Analytical Results - VOCs
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	Chloroform (µg/kg)	Chloromethane	c-1,2-Dichloroethene (µg/kg)	c-1,3-Dichloropropene (µg/kg)	Diisopropyl Ether (DIPE) (µg/kg)	Dibromochloromethane (µg/kg)	Dibromomethane (µg/kg)	Dichlorodifluoromethane (µg/kg)	Ethyl Acetate (µg/kg)	Ethyl Ether	Ethyl-t-Buytl Ether (ETBE) (µg/kg)	Ethylbenzene (µg/kg)	Freon-113	Hexachlorobutadiene	Isopropylbenzene (µg/kg)	p/m-Xylene (µg/kg)	Methylene Chloride (µg/kg)	Methyl-t-Butyl Ether (MTBE) (µg/kg)
RSL - Residential			**32**	**110,000**	**18,000^A**	**NL**	**2,200,000**	**8,300**	**24,000**	**87,000**	**620,000**	**16,000,000**	**NL**	**5,800**	**NL**	**1,200**	**1,900,000**	**550,000****	**2,200^A**	**47,000**
RSL - Commercial/Industrial			**1,400**	**460,000**	**84,000^A**	**NL**	**9,400,000**	**39,000**	**99,000**	**370,000**	**2,600,000**	**230,000,000**	**NL**	**25,000**	**NL**	**5,300**	**9,900,000**	**2,400,000****	**2,600^A**	**210,000**
ESL - Residential			**320**	**110,000**	**19000**	**NL**	**NL**	**8,300**	**NL**	**NL**	**NL**	**NL**	**NL**	**5,900**	**NL**	**1,200**	**NL**	**NL**	**1,900**	**47,000**
ESL - Commercail/Industrial			**1,400**	**470,000**	**85,000**	**NL**	**NL**	**39,000**	**NL**	**NL**	**NL**	**NL**	**NL**	**26,000**	**NL**	**5,300**	**NL**	**NL**	**26,000**	**210,000**
E-2-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-1.0	03/13/19	1	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<44	ND<44	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<8.8	ND<4.4	ND<4.4
E-2-2.5	03/13/19	2.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<45	ND<45	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<9.0	ND<4.5	ND<4.5
E-2-5.0	03/13/19	5	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<39	ND<39	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<7.7	ND<3.9	ND<3.9
E-2-10.0	03/13/19	10	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<91	ND<91	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<9.1	ND<4.6	ND<4.6
E-1-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-1	03/13/19	1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<41	ND<41	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<8.1	ND<4.1	ND<4.1
E-1-2.5	03/13/19	2.5	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<32	ND<32	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<6.3	ND<3.2	ND<3.2
E-1-5.0	03/13/19	5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<55	ND<55	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<11	ND<5.5	ND<5.5
E-1-10.0	03/13/19	10	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<44	ND<44	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<8.9	ND<4.4	ND<4.4

Notes:

feet bgs	Feet below ground surface.
µg/kg	Micrograms per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
^A	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019.
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NL	Screening level not available.
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
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Shaded	Concentration exceeds ESL.

Table 3
Soil Analytical Results - VOCs
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	n-Butylbenzene (µg/kg)	n-Propylbenzene (µg/kg)	Naphthalene (µg/kg)	o-Xylene (µg/kg)	sec-Butylbenzene (µg/kg)	Styrene (µg/kg)	Tert-Amyl-Methyl Ether (TAME) (µg/kg)	tert-Butanol	tert-Butylbenzene (µg/kg)	Tetrachloroethene (µg/kg)	Toluene (µg/kg)	t-1,2-Dichloroethene (µg/kg)	t-1,3-Dichloropropene (µg/kg)	Trichloroethene (µg/kg)	Trichlorofluoromethane (µg/kg)	Vinyl Acetate (µg/kg)	Vinyl Chloride (µg/kg)
RSL - Residential			**2,400,000^A**	**NL**	**2,000^A**	**650,000**	**2,200,000^A**	**5,600,000^A**	**NL**	**NL**	**2,200,000^A**	**59^A**	**1,100,000^A**	**130,000^A**	**NL**	**940**	**1,300,000^A**	**910,000**	**8.2^A**
RSL - Commercial/Industrial			**18,000,000^A**	**NL**	**6,500^A**	**2,800,000**	**12,000,000^A**	**32,000,000^A**	**NL**	**NL**	**12,000,000^A**	**2,700^A**	**5,300,000^A**	**600,000^A**	**NL**	**6,000**	**11,000,000^A**	**3,800,000**	**150^A**
ESL - Residential			**NL**	**NL**	**3,800**	**NL**	**NL**	**5,700,000**	**NL**	**NL**	**NL**	**590**	**1,100,000**	**130000**	**NL**	**950**	**NL**	**NL**	**8.3**
ESL - Commercail/Industrial			**NL**	**NL**	**17,000**	**NL**	**NL**	**33,000,000**	**NL**	**NL**	**NL**	**2,700**	**5,300,000**	**600,000**	**NL**	**6,100**	**NL**	**NL**	**150**
E-2-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-1.0	03/13/19	1	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<88	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<44	ND<4.4
E-2-2.5	03/13/19	2.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<90	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<45	ND<4.5
E-2-5.0	03/13/19	5	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<77	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<77	ND<3.9
E-2-10.0	03/13/19	10	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<91	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<91	ND<4.6
E-1-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-1	03/13/19	1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<82	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<41	ND<4.1
E-1-2.5	03/13/19	2.5	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<32	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<3.2	ND<32	ND<3.2
E-1-5.0	03/13/19	5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<110	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<5.5	ND<55	ND<5.5
E-1-10.0	03/13/19	10	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<89	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<44	ND<4.4

Notes:

feet bgs	Feet below ground surface.
µg/kg	Micrograms per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
^A	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019.
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Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

Table 4
Soil Analytical Results - Pesticides
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	4,4'-DDD (µg/kg)	4,4'-DDE (µg/kg)	4,4'-DDT (µg/kg)	Aldrin (µg/kg)	alpha-BHC (µg/kg)	alpha-Chlordane (µg/kg)	beta-BHC (µg/kg)	Chlordane (µg/kg)	delta-BHC (µg/kg)	Dieldrin (µg/kg)
RSL - Residential			**1,900**	**23,000^**	**1,900**	**2,300^**	**NL**	**NL**	**NL**	**1,700^**	**NL**	**34**
RSL - Commercial/Industrial			**6,200^**	**340,000^**	**7,100^**	**34,000^**	**NL**	**NL**	**NL**	**6,100^**	**NL**	**93**
ESL - Residential			**2,700**	**1800**	**1,900**	**35**	**NL**	**NL**	**NL**	**480**	**NL**	**37**
ESL - Commercail/Industrial			**12,000**	**8300**	**8500**	**150**	**NL**	**NL**	**NL**	**220**	**NL**	**160**
E-2-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-1.0	03/13/19	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-2.5	03/13/19	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-5.0	03/13/19	5	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<8.5	ND<1.0	ND<2.0
E-2-10.0	03/13/19	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-0.5	03/13/19	0.5	24	210	230	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<42	ND<5.0	ND<10
E-1-1	03/13/19	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-2.5	03/13/19	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-5.0	03/13/19	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-10.0	03/13/19	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

feet bgs	Feet below ground surface.
mg/kg	Milligrams per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
RSL	US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted.
ESL	Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
^	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019. used is for depth to groundwater beneath sample of less than 20 feet.
NL	Screening level not available.
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

Table 4
Soil Analytical Results - Pesticides
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Endosulfan I (µg/kg)	Endosulfan II (µg/kg)	Edonsulfan sulfate (µg/kg)	Endrin (µg/kg)	Endrin aldehyde (µg/kg)	Endrin ketone (µg/kg)	gamma-BHC (µg/kg)	gamma-Chlordane (µg/kg)	Heptachlor (µg/kg)	Heptachlor epoxide (µg/kg)	Methoxychlor (µg/kg)	Toxaphene (µg/kg)
NL	**NL**	**NL**	**19,000**	**NL**	**NL**	**NL**	**NL**	**38,000^**	**990^**	**NL**	**45^**
NL	**NL**	**NL**	**160,000^**	**NL**	**NL**	**NL**	**NL**	**510,000^**	**14,000^**	**NL**	**1,200^**
NL	**NL**	**NL**	**21000**	**NL**	**NL**	**NL**	**NL**	**120**	**62**	**350,000**	**510**
NL	**NL**	**NL**	**290000**	**NL**	**NL**	**NL**	**NL**	**530**	**910**	**4,800,000**	**2200**
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ND<1.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<5.0	ND<50
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ND<5.0	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<25	ND<250
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

feet bgs	Feet below ground surface.
mg/kg	Milligrams per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
RSL	US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted.
ESL	Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
^	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019. used is for depth to groundwater beneath sample of less than 20 feet.
NL	Screening level not available.
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

Table 5
Soil Vapor Analytical Results - PCBs
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	Aroclor 1016 (µg/kg)	Aroclor 1221 (µg/kg)	Aroclor 1232 (µg/kg)	Aroclor 1242 (µg/kg)	Aroclor 1248 (µg/kg)	Aroclor 1254 (µg/kg)	Aroclor 1260 (µg/kg)	Aroclor 1262 (µg/kg)	Aroclor 1268 (µg/kg)
RSL - Residential			**4,000^**	**20**	**17**	**23**	**23**	**24.0**	**24**	**NL**	**NL**
RSL - Commercial/Industrial			**17,000^**	**53^**	**49^**	**58^**	**58^**	**59^**	**60^**	**NL**	**NL**
ESL			**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**	**NL**
E-2-0.5	03/13/19	0.5	ND<16	ND<16	ND<16	ND<16	ND<16	ND<16	ND<16	ND<16	ND<16
E-2-1.0	03/13/19	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-2.5	03/13/19	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-5.0	03/13/19	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-10.0	03/13/19	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-1	03/13/19	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-2.5	03/13/19	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-5.0	03/13/19	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-10.0	03/13/19	10	NA	NA	NA	NA	NA	NA	NA	NA	NA

TPH-g — Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
feet bgs — Feet below ground surface.
µg/m³ — micrograms per cubic meter
ND< — Not detected above the indicated laboratory detection limit.

RSL — US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted. RSL value used for TPH-g is TPH Aromatic Low.

ESL — Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.

NL — Screening level not available.

Italic — Concentration exceeds Residential RSL or DTSC-recommended screening level.

Bold — Concentration exceeds Residential and Industrial RSL or DTSC-recommended screening levels.

Shaded — Concentration exceeds ESL.

Table 3B
Soil Vapor Analytical Results - Summarized SVOCs
Sheldon Arleta Park Phase IIIC
12455 West Wicks Street
Los Angeles, California

Sample ID	Date Sampled	Depth (feet bgs)	Acenaphtene (µg/kg)	Acenaphthylene (µg/kg)	Anthracene (µg/kg)	Benzo (a) Anthrance (µg/kg)	Benzo (a) Pyrene (µg/kg)	Benzo (b) Fluoranthene (µg/kg)	Benzo (g,h,i) Perylene (µg/kg)	Benzo (k) Fluoranthene (µg/kg)	Chrysene (µg/kg)	Dibenz (a,h) Anthracene (µg/kg)	Fluoranthene (µg/kg)	Fluorene (µg/kg)	Indeno (1,2,3-c,d) Pryene (µg/kg)	Methylnaphthale (µg/kg)	Naphthalene (µg/kg)	Phenanthrene (µg/kg)	Pyrene (µg/kg)
RSL - Residential			**3,300^**	**NL**	**17,000^**	**1.1**	**0.11**	**1.1**	**NL**	**11**	**110**	**0.028^**	**2,400**	**2,300^**	**1.1**	**190^**	**2^**	**NL**	**1,800**
RSL - Commercial/Industrial			**23,000^**	**NL**	**130,000^**	**12^**	**1.3^**	**13^**	**NL**	**130^**	**1,300^**	**0.31^**	**18,000^**	**18,000^**	**13**	**1,300^**	**6.5^**	**NL**	**13,000^**
ESL - Residential			**3,600**	**NL**	**0**	**1.1**	**0.11**	**1.1**	**NL**	**11**	**110**	**0.11**	**2,400**	**2,400**	**1.1**	**240**	**3.8**	**NL**	**1,800**
ESL - Commercail/Industrial			**45,000**	**NL**	**0**	**20**	**2**	**21**	**NL**	**210**	**2100**	**2**	**30000**	**30000**	**21**	**3,300**	**17**	**NL**	**23000**
E-2-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-1.0	03/13/19	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-2.5	03/13/19	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-2-5.0	03/13/19	5	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300
E-2-10.0	03/13/19	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-0.5	03/13/19	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-1	03/13/19	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-2.5	03/13/19	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-5.0	03/13/19	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E-1-10.0	03/13/19	10	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300	ND<3300

Notes:

feet bgs	Feet below ground surface.
µg/kg	Micrograms per kilogram.
ND<	Not detected above the indicated laboratory detection limit.
NA	Not analyzed/Not sampled/Not applicable.
^	Recommended screening level provided in California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk's Human Health Risk Assessment Note No. 3, dated April 2019.
RSL	US EPA Regional Screening Level for soil based on Hazard Quotient of 1.0, updated November 2018, unless otherwise noted.
ESL	Tier 1 Environmental Screening Level for soil issued by San Francisco Bay Regional Water Quality Control Board, January 2019.
NL	Screening level not available.
Italic	Concentration exceeds Residential RSL or DTSC-recommended screening level.
Bold	Concentration exceeds Commercial/Industrial RSL or DTSC-recommended screening levels.
Shaded	Concentration exceeds ESL.

APPENDIX A
SOIL BORING LOGS

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SAMPLER AND DRILLING METHOD GRAPHICS



BULK / GRAB / BAG SAMPLE

MODIFIED CALIFORNIA SAMPLER
(2 or 2-1/2 in. (50.8 or 63.5 mm.) outer diameter)

CALIFORNIA SAMPLER
(3 in. (76.2 mm.) outer diameter)

STANDARD PENETRATION SPLIT SPOON SAMPLER
(2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)

HQ CORE SAMPLE
(2.500 in. (63.5 mm.) core diameter)

SHELBY TUBE SAMPLER

HOLLOW STEM AUGER

SOLID STEM AUGER

WASH BORING

SONIC CONTINUOUS SAMPLER

GROUND WATER GRAPHICS

WATER LEVEL (level where first observed)

WATER LEVEL (level after exploration completion)

WATER LEVEL (additional levels after exploration)

OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS
WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu ≥4 and 1≤ Cc≤3		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			Cu <4 and/ or 1>Cc >3		GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH 5% TO 12% FINES	Cu ≥4 and 1≤ Cc≤3		GW-GM	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
			Cu <4 and/ or 1>Cc >3		GP-GM	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		GRAVELS WITH > 12% FINES			GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
					GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
	SANDS (Half or more of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu ≥6 and 1≤ Cc≤3		SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu <6 and/ or 1>Cc >3		SP	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5% TO 12% FINES	Cu ≥6 and 1≤ Cc≤3		SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
			Cu <6 and/ or 1>Cc >3		SP-SM	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		SANDS WITH > 12% FINES			SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
					SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES

FINE GRAINED SOILS (Half or more of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)	ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid Limit 50 or greater)	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/10/2019

GRAPHICS KEY

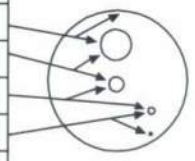
Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
1

PLOTTED: 05/10/2019 10:27 AM BY: RFenyman
PROJECT NUMBER: 20190264.003A OFFICE FILTER: RIVERSIDE
gINT FILE: Klf_gint_master_2019 gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 1 (GRAPHICS KEY) USCS_SOU_CAL]

GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles		3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse	3/4 -3 in. (19 - 76.2 mm.)	3/4 -3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine	#4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse	#10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium	#40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine	#200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines		Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller



SECONDARY CONSTITUENT

	AMOUNT	
Term of Use	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N_{60} (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q_u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP <0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP <1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP <2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP <4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N_{60} (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

PLASTICITY

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness.
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/10/2019

SOIL DESCRIPTION KEY

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
2

PLOTTED: 05/10/2019 10:27 AM BY: RFerryman
OFFICE FILTER: RIVERSIDE
PROJECT NUMBER: 20190264.003A
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [LEGEND 2 (SOIL DESC KEY)]

Date Begin - End:	3/13/2019	**Drilling Company:**	BC-2	**BORING LOG B-1**	
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 34.22657° N
Longitude: -118.40430° E
Approximate Ground Surface Elevation (ft.): 840.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Fill: **Sandy SILT (ML)**: non-plastic, dark brown [10YR 3/3], moist, fine-grained sand	B-1-1											Hand auger to 5 feet below ground surface SVC is <0.1 ppm
835	5		**SILT with Sand (ML)**: non-plastic, dark brown [10YR 3/3], moist, very stiff, fine-grained sand	B-1-2		BC=5 16 23	6"		11.2	112.6					SVC is 0.1 ppm %LEL is <1
			Silty SAND with Gravel (SM): fine-grained, dark brown [10YR 3/3], moist, medium dense, fine gravel												
830	10			B-1-3		BC=10 18 19	6"		3.4	110.5		31			SVC is 0.1 ppm %LEL is <1
825	15		very dark brown [10YR 2/2], dense	B-1-4		BC=10 16 25	6"		6.3	109.4					SVC is 0.8 ppm %LEL is <1
			Poorly Graded SAND: fine-grained, light olive brown [25Y 5/3], moist, medium dense												
820	20		asphalt debris up to 3-inches in diameter	B-1-5		BC=10 15 23	6"								SVC is <0.1 ppm %LEL is <1
			Native: **Poorly Graded SAND**: fine-grained, light olive brown [25Y 5/3], moist, medium dense dark brown [10YR 3/3], trace fines												
815	25		dense, trace cobbles	B-1-6		BC=7 23 33	6"		1.7	120.0					SVC is 1.6 ppm %LEL is <1
810	30														

The boring was terminated at approximately 26.5 ft. below ground surface. The boring was backfilled with cement/bentonite grout on March 13, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-1

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-3
PAGE: 1 of 1

gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [__KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20190264.003A
OFFICE FILTER: RIVERSIDE
PLOTTED: 05/16/2019 02:00 PM BY: RFerryman

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PROJECT NUMBER: 20190264.003A OFFICE FILTER: RIVERSIDE
gINT FILE: Klf_gint_master_2019 gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [__KLF_BORING/TEST PIT SOIL LOG]

BORING LOG B-2

Date Begin - End:	3/13/2019	**Drilling Company:**	BC-2		
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 34.22638° N
Longitude: -118.40460° E
Approximate Ground Surface Elevation (ft.): 839.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
835	0		**Fill:** **Silty SAND (SM)**: fine-grained, olive brown [10YR 4/4], moist, trace roots	B-2-1											Hand auger to 5 feet below ground surface, Consolidation Test, Compaction Test, Corrosion Test
			SILT (ML): dark olive brown [10YR 3/3], moist, trace clay, trace gravel												
	5		**Clayey SAND (SC)**: fine-grained, olive brown [2.5Y 4/3], moist, medium dense	B-2-2		BC=7 16 23	6"		11.3	120.0	92	49	32	12	SVC is 0.2 ppm %LEL is <1, Plasticity Test, Consolidation Test
830			**Silty SAND (SM)**: fine-grained, olive brown [2.5Y 4/3], moist, medium dense												
	10			B-2-3		BC=7 10 11	6"		4.2	106.6					SVC is 1.8 ppm %LEL is <1, Direct Shear Test
825			**Native:** **Poorly Graded SAND (SP)**: fine-grained, very dark grayish brown [10YR 3/2], moist, loose												
	15		grayish brown [2.5Y 5/2], trace gravel	B-2-4		BC=2 3 6	6"		1.7	102.7	74	2.0			SVC is 1.5 ppm %LEL is <1, Consolidation Test
820															
	20		medium-grained, dense	B-2-5		BC=8 17 25	6"		2.2	108.1					SVC is 2.1 ppm %LEL is <1, Direct Shear Test
815	25														
810	30														
805															

The boring was terminated at approximately 21.5 ft. below ground surface. The boring was backfilled with cement/bentonite grout on March 13, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-2

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-4

Date Begin - End:	3/14/2019	**Drilling Company:**	BC-2	**BORING LOG B-3**	
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

Latitude: 34.22633° N
Longitude: -118.40510° E
Approximate Ground Surface Elevation (ft.): 839.50
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Fill: **SILT (ML)**: dark yellowish brown [10YR 4/4], moist, trace fine to medium-grained sand; trace roots, trace fine gravel	B-3-1									29	15	Hand auger to 5 feet below ground surface, Plasticity Test, Direct Shear Test, Compaction Test
835	5		**Native:** **Poorly Graded SAND with Silt (SP-SM)**: fine-grained, olive brown [2.5Y 4/4], moist, medium dense	B-3-2		BC=4 16 19	6"		3.7	107.0					SVC is 0.2 ppm %LEL is <1
830	10		**Poorly Graded SAND (SP)**: fine-grained, olive brown [2.5Y 4/4], moist, loose, trace fine gravel	B-3-3		BC=4 6 8	6"		3.3	101.9					SVC is 0.9 ppm %LEL is <1
825	15		increase fine gravel; light olive brown [2.5Y 5/3], medium dense	B-3-4		BC=8 9 14	6"		1.8	105.5					SVC is 1.1 ppm %LEL is <1
820	20		dense, few fine gravel	B-3-5		BC=10 22 23	6"								SVC is 0.2 ppm %LEL is <1
815	25														
810	30														
805															

The boring was terminated at approximately 21.5 ft. below ground surface. The boring was backfilled with cement/bentonite grout on March 14, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-3

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-5
PAGE: 1 of 1

PLOTTED: 05/16/2019 02:00 PM BY: RFerryman
PROJECT NUMBER: 20190264.003A OFFICE FILTER: RIVERSIDE
gINT FILE: Klf_gint_master_2019 gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_BORING/TEST PIT SOIL LOG]

Date Begin - End:	3/14/2019	**Drilling Company:**	BC-2	**BORING LOG B-4**	
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

Latitude: 34.22532° N
Longitude: -118.40610° E
Approximate Ground Surface Elevation (ft.): 833.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
830	0		**Fill:** **SILT with Sand (ML)**: non-plastic, dark yellowish brown [10YR 3/4], moist, fine-grained sand, trace fine gravel; trace cobbles	B-4-1											Hand auger to 5 feet below ground surface
825	5		**Native:** **Poorly Graded SAND with Silt and Gravel (SP-SM)**: fine-grained, dark yellowish brown [10YR 3/4], moist, medium dense, few to little fines, little fine gravel	B-4-2		BC=7 12 15	6"		2.0	103.3	84	11			SVC is 0.1 ppm %LEL is <1, Direct Shear Test
820	10		**Silty SAND (SM)**: fine-grained, brown [10YR 4/3], moist, very dense, trace cobbles	B-4-3		BC=26 36 36	6"		4.8	81.5					SVC is 0.8 ppm %LEL is <1
815	15														
810	20														
805	25														
800	30														

The boring was terminated at approximately 11.5 ft. below ground surface. The boring was backfilled with cement/bentonite grout on March 14, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-4

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-6
PAGE: 1 of 1

PLOTTED: 05/16/2019 02:01 PM BY: RFerryman
PROJECT NUMBER: 20190264.003A OFFICE FILTER: RIVERSIDE
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_BORING/TEST PIT SOIL LOG]

Date Begin - End:	3/14/2019	**Drilling Company:**	BC-2	**BORING LOG B-6**	
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

Latitude: 34.22475° N
Longitude: -118.40710° E
Approximate Ground Surface Elevation (ft.): 828.50
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
825	0		**Fill:** **Silty SAND (SM)**: fine-grained, dark yellowish brown [10YR 3/4], moist, few fine gravel, trace cobbles, trace roots	B-6-1											Hand auger to 5 feet below ground surface, R-Value Test=23
			decreased fines, decrease cobbles												
	5		**Native:** **Poorly Graded SAND (SP)**: fine-grained, dark grayish brown [10YR 4/2], moist, medium dense, trace fines, trace gravel	B-6-2		BC=5 8 16	6"		14.7	105.8					SVC is 1.0 ppm %LEL is <1
820															
	10		light olive brown [2.5Y 5/3], few fine gravel	B-6-3		BC=4 12 15	6"		1.3	110.7					SVC is <0.1 ppm %LEL is <1
815															
	15														
810															
	20														
805															
	25														
800															
	30														
795															

The boring was terminated at approximately 11.5 ft. below ground surface. The boring was backfilled with cement/bentonite grout on March 14, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-6

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-7
PAGE: 1 of 1

gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [__KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20190264.003A
OFFICE FILTER: RIVERSIDE
PLOTTED: 05/16/2019 02:01 PM BY: RFerryman

Date Begin - End:	4/22/2019	**Drilling Company:**	BC-2	**BORING LOG B-7**	
Logged By:	D. Philo	**Drill Crew:**	C. Herbel		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-85	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

FIELD EXPLORATION

Latitude: 34.22616° N
Longitude: -118.40484° E
Approximate Ground Surface Elevation (ft.): 837.00
Surface Condition: Bare Earth

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
835			**Fill:** **Clayey SAND (SC)**: fine-grained, dark brown [10YR 3/3], moist, few to little fine gravel	B-7-1							87	38	30	16	Hand auger to 5 feet below ground surface, Plasticity Test, Consolodation Test
	5		**Silty SAND (SM)**: fine-grained, dark yellowish brown [10YR 4/4], moist, medium dense, trace fine gravel	B-7-2		BC=11 12 14	6"		5.1	106.6	95	42			SVC is 0.4 ppm %LEL is <1
830			**Native:** **Poorly Graded SAND (SP)**: fine-grained, light yellowish brown [10YR 6/4], moist, few fines												
	10		medium dense, decreased fines	B-7-3		BC=10 12 17	6"		8.8	111.7					SVC is 0.4 ppm %LEL is <1
825															
	15			B-7-4		BC=11 15 17	6"								SVC is 0.3 ppm %LEL is <1
820															
	20														
815															
	25														
810															
	30														
805															

The boring was terminated at approximately 16.5 ft. below ground surface. The boring was backfilled with auger cuttings on April 22, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-7

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-8
PAGE: 1 of 1

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PROJECT NUMBER: 20190264.003A OFFICE FILTER: RIVERSIDE
gINT FILE: Klf_gint_master_2019 gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [L_KLF_BORING/TEST PIT SOIL LOG]

Date Begin - End:	4/22/2019	**Drilling Company:**	BC-2	**BORING LOG B-8**	
Logged By:	D. Philo	**Drill Crew:**	C. Herbel		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-85	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

Latitude: 34.22569° N
Longitude: -118.40563° E
Approximate Ground Surface Elevation (ft.): 834.50
Surface Condition: Bare Earth

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Fill: **Silty SAND (SM)**: fine-grained, dark brown [10YR 3/3], moist, trace gravel	B-8-1								26			Hand auger to 5 feet below ground surface
			trace brick fragments at 2 1/2 feet below ground surface												
830	5		**Native:** **Silty SAND (SM)**: dark olive brown [25Y 3/3], moist, medium dense, trace gravel	B-8-2		BC=9 14 17	6"		4.7	114.1		27			SVC is 0.4 ppm %LEL is <1% Consolidation Test
825	10		**Poorly Graded SAND (SP)**: fine-grained, light brownish gray [10YR 6/5], moist, medium dense	B-8-3		BC=11 14 19	6"		1.1	101.1					SVC is 0.4 ppm %LEL is <1%
820	15		fine to medium-grained, trace gravel	B-8-4		BC=10 12 14	6"								SVC is 0.3 ppm %LEL is <1%
815	20														
810	25														
805	30														
800															

The boring was terminated at approximately 16.5 ft. below ground surface. The boring was backfilled with auger cuttings on April 22, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

BORING LOG B-8

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-9
PAGE: 1 of 1

gINT FILE Klf_gint_master_2019 gINT TEMPLATE E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [__KLF_BORING/TEST PIT SOIL LOG] PROJECT NUMBER 20190264.003A OFFICE FILTER RIVERSIDE PLOTTED 05/16/2019 02:01 PM BY RFerryman

Date Begin - End:	3/13/2019	**Drilling Company:**	BC-2	**ENVIRONMENTAL BORING LOG E-1**	
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Down Hole - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

FIELD EXPLORATION

Latitude: 34.22033° N
Longitude: -118.40530° E
Approximate Ground Surface Elevation (ft.): 839.50
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Fill: **Lean CLAY (CL)**: low plasticity, yellowish brown [10YR 4/4], moist, few fine-grained sand	E-1-0.5											Hand auger to 5 feet below ground surface
				E-1-1.0											SVC is 0.6 ppm
				E-1-2.5											SVC is 0.6 ppm
															SVC is 0.9 ppm
835	5		**Native:** **Silty SAND (SM)**: dark olive brown [2.5Y 3/3], moist	E-1-5.0		BC=6 9 14	18"								SVC is 1.1 ppm %LEL is <1
830	10		**Poorly Graded SAND (SP)**: grayish brown [2.5Y 4/2], moist, trace fine gravel	E-1-10.0		BC=5 10 12	18"								SVC is 2.3 ppm %LEL is <1
825	15														
820	20														
815	25														
810	30														
805															

The environmental boring was terminated at approximately 11.5 ft. below ground surface. The environmental boring was backfilled with cement/bentonite grout on March 13, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

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PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

ENVIRONMENTAL BORING LOG E-1

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-10
PAGE: 1 of 1

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gINT FILE Klf_gint_master_2019
gINT TEMPLATE E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB __KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER 20190264.003A
OFFICE FILTER RIVERSIDE

Date Begin - End:	3/13/2019	**Drilling Company:**	BC-2	**ENVIRONMENTAL BORING LOG E-2**	
Logged By:	D. Philo	**Drill Crew:**	S. Perez, E. Ramirez		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75	**Hammer Type - Drop:**	140 lb. Down Hole - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	Hollow Stem Auger		
Weather:	Not Available	**Bore Diameter:**	8 in. O.D.		

Latitude: 34.22612° N
Longitude: -118.40492° E
Approximate Ground Surface Elevation (ft.): 839.00
Surface Condition: Grass

Approximate Elevation (feet)	Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in.	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
			Fill:	E-1-0.5											Hand auger to 5 feet below ground surface
			Lean CLAY (CL): low plasticity, dark yellowish brown [10YR 4/4], moist	E-1-1.0											SVC is 0.8 ppm SVC is 1.0 ppm
			trace cobbles	E-1-2.5											SVC is 1.4 ppm
835			**Native:**												
	5		**Silty SAND (SM)**: fine-grained, dark olive brown [2.5Y 3/3], moist, medium dense	E-1-5.0		BC=5 9 10	18"								SVC is 2.4 ppm %LEL is <1
830			**Poorly Graded SAND (SP)**: fine to medium-grained, grayish brown [2.5Y 4/2], moist, medium dense, trace fine gravel												
	10			E-1-10.0		BC=6 11 11	18"								SVC is 0.4 ppm %LEL is <1
825	15														
820	20														
815	25														
810	30														
805															

The environmental boring was terminated at approximately 11.5 ft. below ground surface. The environmental boring was backfilled with cement/bentonite grout on March 13, 2019.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20190264
DRAWN BY:	RF
CHECKED BY:	JW
DATE:	5/9/2019
REVISED:	5/16/2019

ENVIRONMENTAL BORING LOG E-2

Sheldon Arleta Park Phase IIIC Engineering and Environmental Soil Borings Investigation
12455 West Wicks Street
Los Angeles, California

FIGURE
A-11
PAGE: 1 of 1

PLOTTED: 05/16/2019 02:01 PM BY: RFerryman
gINT FILE: Klf_gint_master_2019
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2019.GLB [KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20190264.003A
OFFICE FILTER: RIVERSIDE

APPENDIX B
GEOTECHNICAL LABORATORY FIGURES

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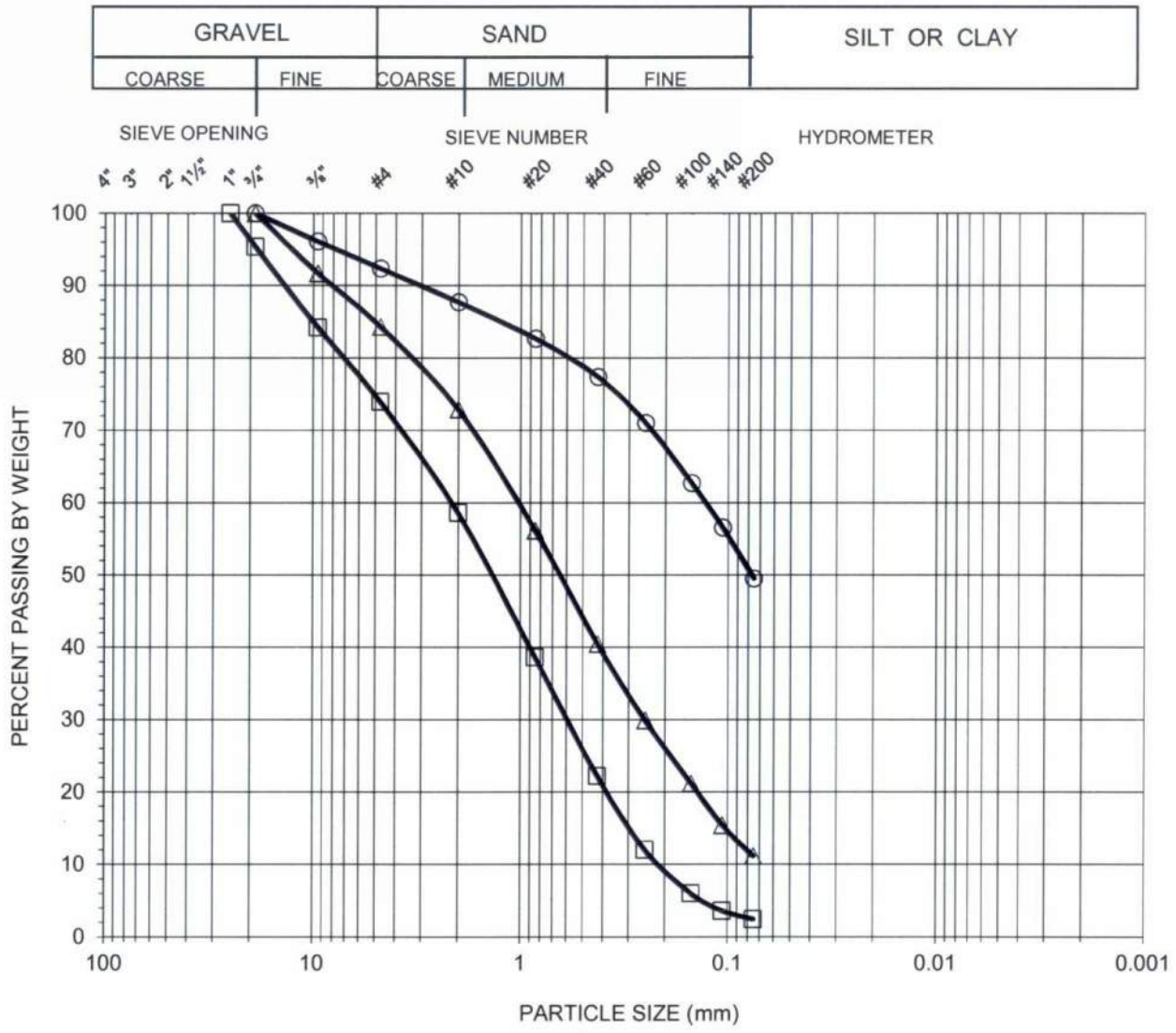
Figure B-1

GRAIN SIZE DISTRIBUTION CURVE
ASTM D 6913

Client Name:	Kleinfelder	Tested by:	NG	Date:	04/02/19
Project Name:	Sheldon Arleta	Computed by:	JP	Date:	04/03/19
Project Number:	20190264.003A	Checked by:	AP	Date:	04/03/19



Symbol	Boring No.	Sample No.	Sample Depth (feet)	Percent			Atterberg Limits LL:PL:PI	Soil Type U.S.C.S
				Gravel	Sand	Silt & Clay		
○	B-2	B-2-2	5-5.5	8	43	49	32:20:12	SC
□	B-2	B-2-4	15-15.5	26	72	2	N/A	SP
△	B-4	B-4-2	5-5.5	16	73	11	N/A	SP-SM

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Figure B-2

GRAIN SIZE DISTRIBUTION CURVE
ASTM D 6913

Client Name:	Kleinfelder	Tested by:	NG	Date:	05/02/19
Project Name:	Sheldon Arleta	Computed by:	JP	Date:	05/03/19
Project Number:	20190264.003A	Checked by:	AP	Date:	05/03/19



Symbol	Boring No.	Sample No.	Sample Depth (feet)	Percent			Atterberg Limits LL:PL:PI	Soil Type U.S.C.S
				Gravel	Sand	Silt & Clay		
○	B-7	B-7-1	0-5	13	49	38	30:14:16	SC
□	B-7	B-7-2	6-6.5	5	53	42	N/A	SC*

**Note: Based on visual classification of sample*

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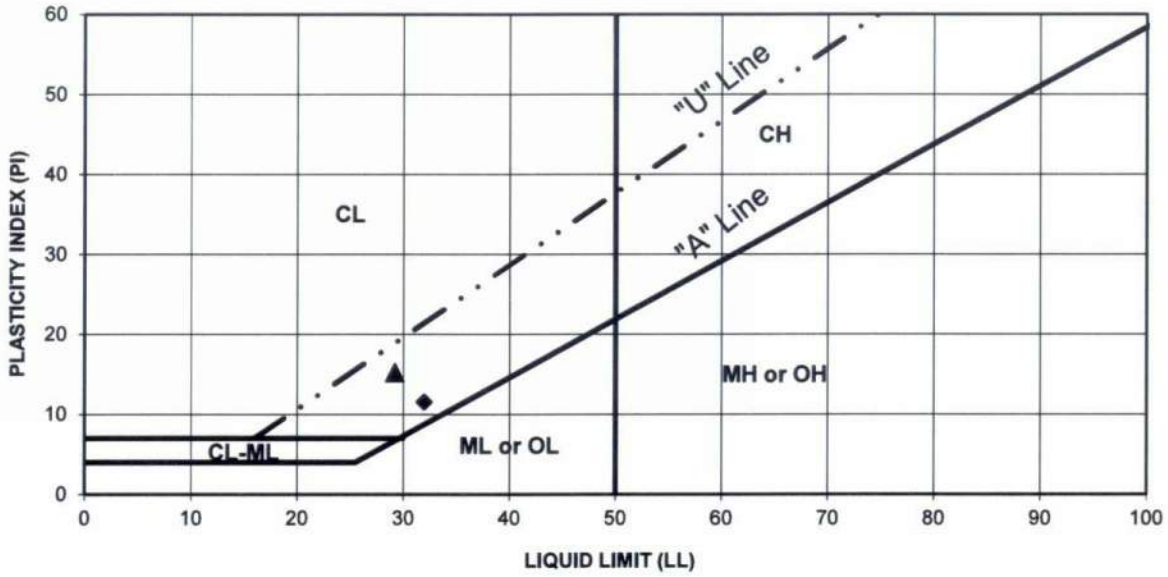
Figure B-3

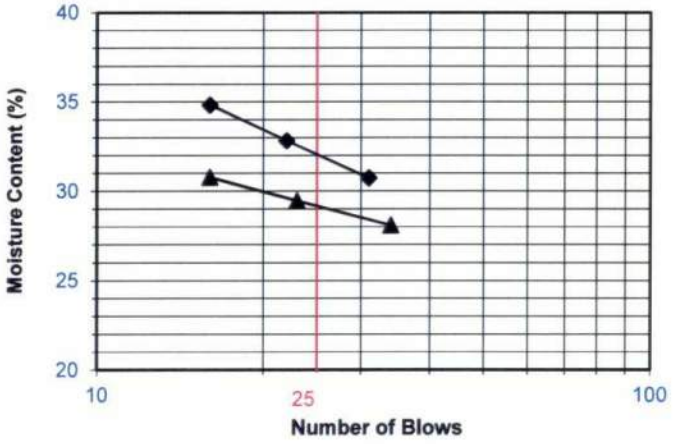
ATTERBERG LIMITS
ASTM D 4318

Project Name: Sheldon Arleta **Tested By:** DK Date: 04/01/19
Project No.: 20190264.003A **Checked By:** AP Date: 04/03/19



PROCEDURE USED

- ☐ Wet Preparation
- ☒ Dry Preparation
- ☒ Procedure A Multipoint Test
- ☐ Procedure B One-point Test



Symbol	Boring Number	Sample Number	Depth (feet)	LL	PL	PI	Plasticity Chart Symbol
♦	B-2	B-2-2	5-5.5	32	20	12	CL
▲	B-3	B-3-1	0-5	29	14	15	CL

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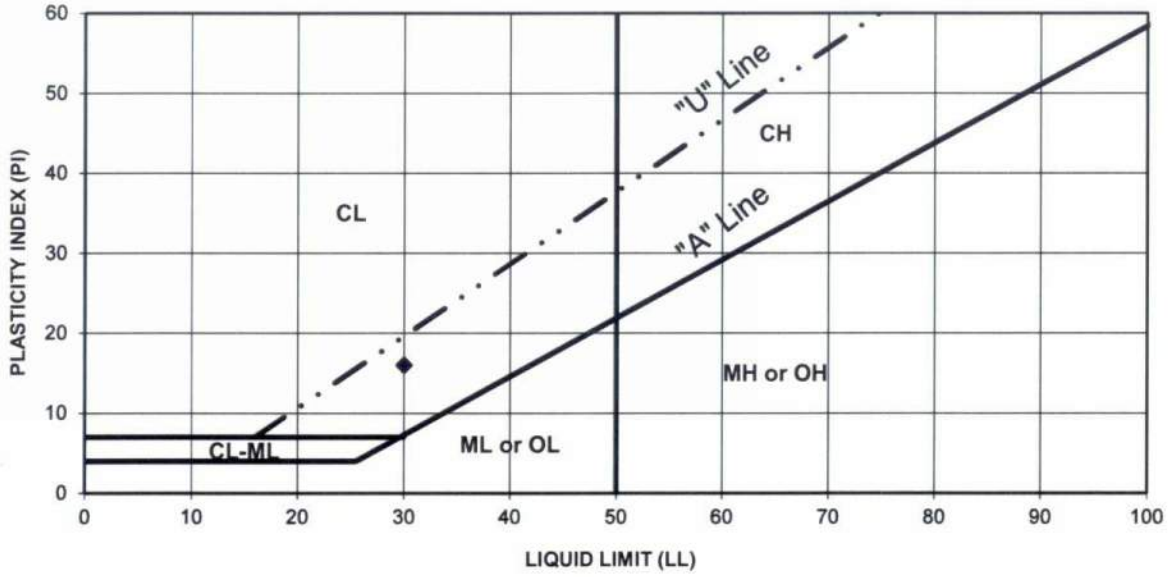
Figure B-4

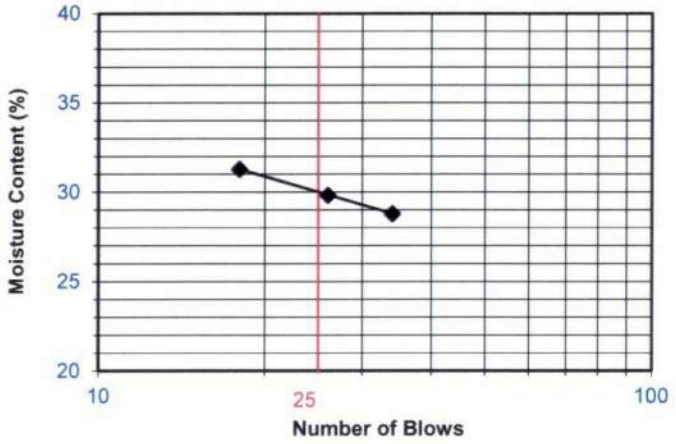
ATTERBERG LIMITS
ASTM D 4318

Project Name: Sheldon Arleta **Tested By:** DK **Date:** 04/29/19
Project No.: 20190264.003A **Checked By:** AP **Date:** 05/03/19



PROCEDURE USED

- ☐ Wet Preparation
- ☒ Dry Preparation
- ☒ Procedure A Multipoint Test
- ☐ Procedure B One-point Test



Symbol	Boring Number	Sample Number	Depth (feet)	LL	PL	PI	Plasticity Chart Symbol
♦	B-7	B-7-1	0-5	30	14	16	CL

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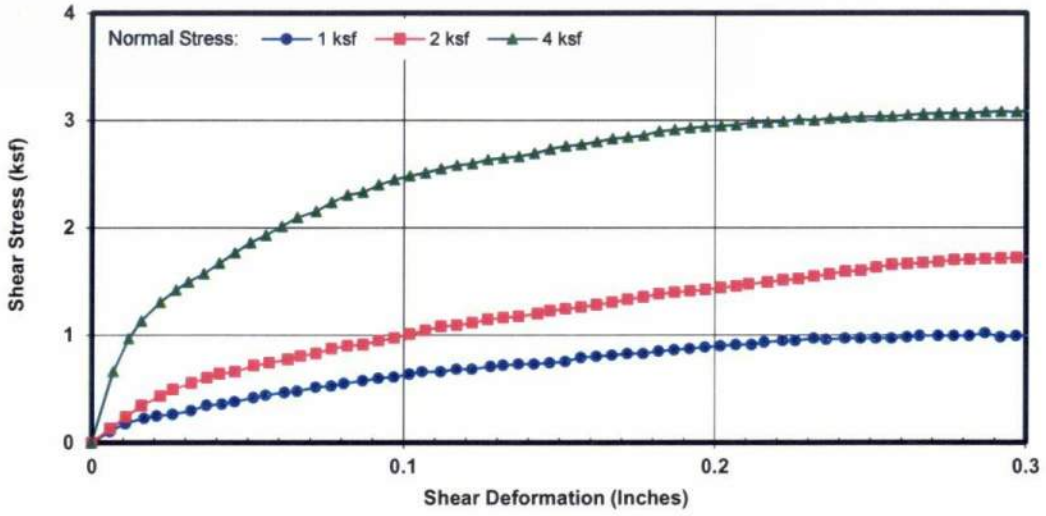
Figure B-5

DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name:	Sheldon Arleta		**Tested By:**	AM	**Date:** 03/29/19
Project No.:	20190264.003A		**Computed By:**	JP	**Date:** 04/03/19
Boring No.:	B-2		**Checked by:**	AP	**Date:** 04/03/19
Sample No.:	B-2-3	**Depth (ft):** 10-10.5			
Sample Type:	Mod. Cal.				
Soil Description:	Silty Sand w/gravel				
Test Condition:	Inundated	**Shear Rate:** 0.025 in/min			

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
111.0	106.5	4.2	19.4	20	90	1	1.020	0.996
						2	1.734	1.734
						4	3.091	3.091



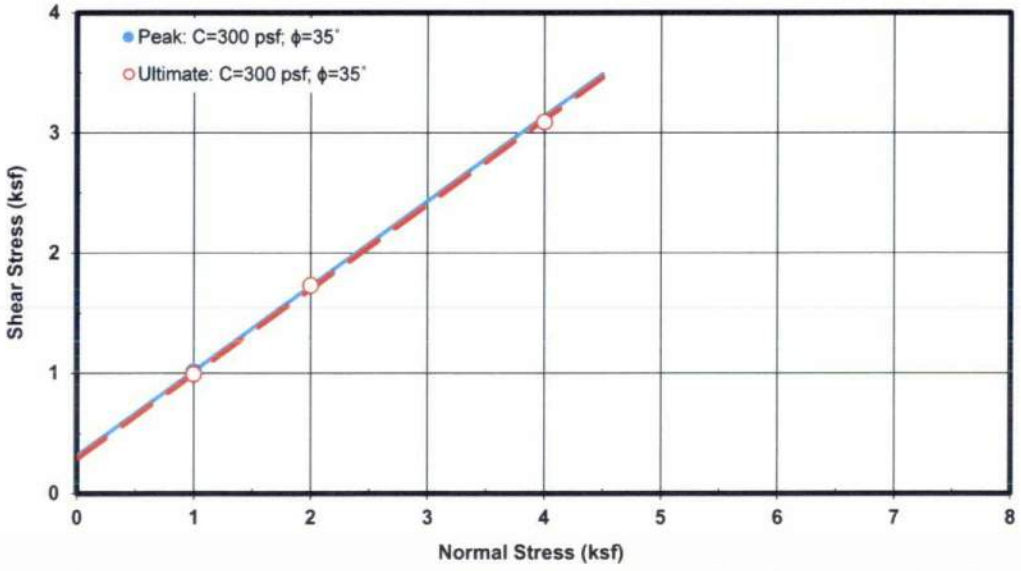


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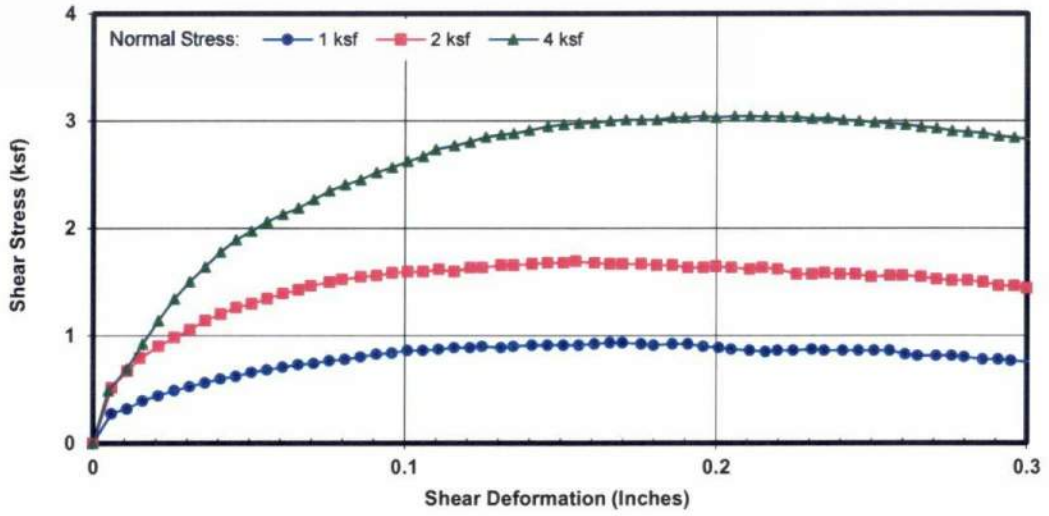
Figure B-6

DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name:	Sheldon Arleta		**Tested By:**	AM	**Date:** 03/29/19
Project No.:	20190264.003A		**Computed By:**	JP	**Date:** 04/03/19
Boring No.:	B-2		**Checked by:**	AP	**Date:** 04/03/19
Sample No.:	B-2-5	**Depth (ft):** 20-20.5			
Sample Type:	Mod. Cal.				
Soil Description:	Silty Sand				
Test Condition:	Inundated	**Shear Rate:** 0.025 in/min			

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
108.6	106.3	2.2	19.4	10	90	1	0.936	0.756
						2	1.692	1.440
						4	3.044	2.827



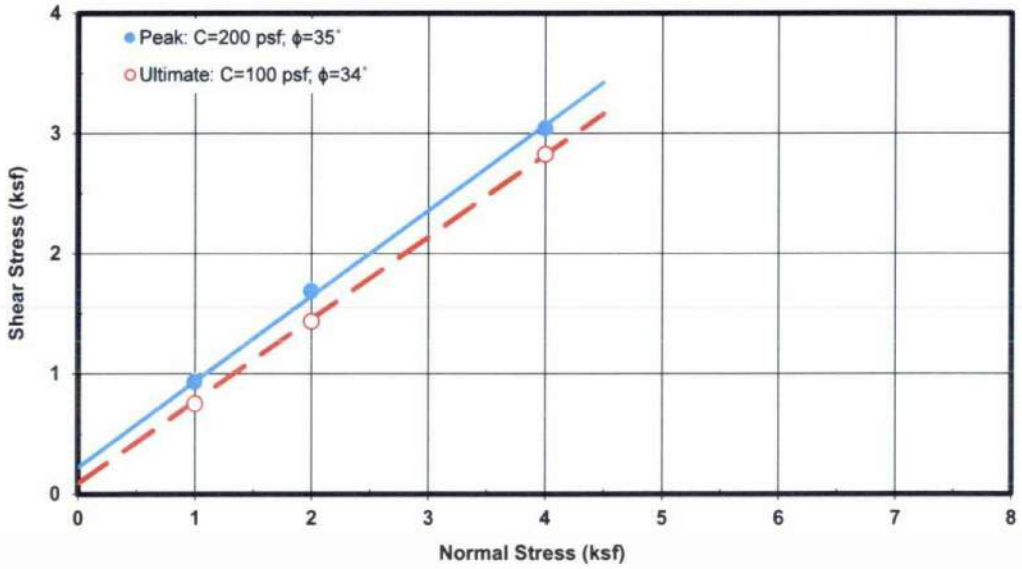


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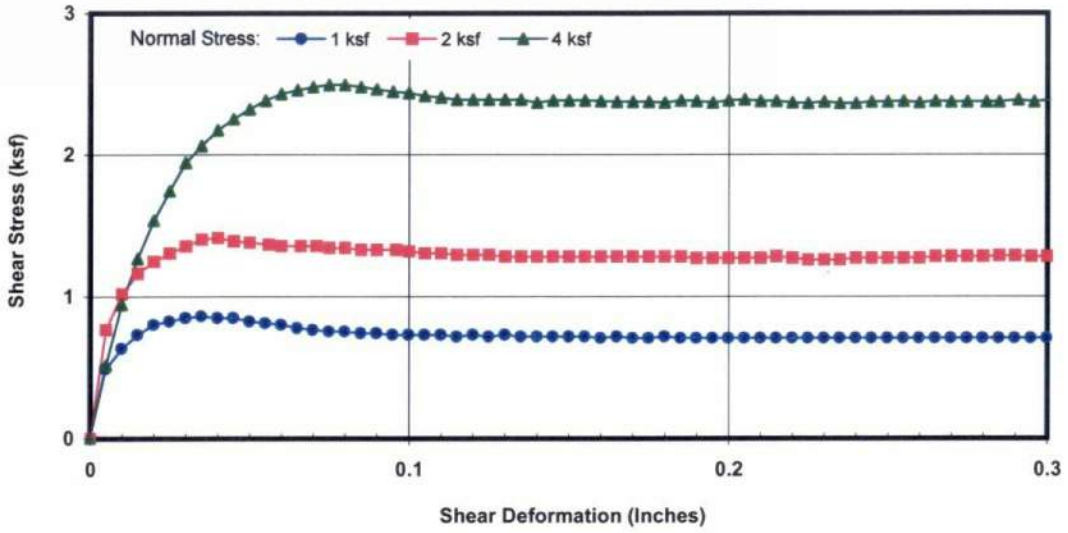
Figure B-7

DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name:	Sheldon Arleta		**Tested By:**	AM	**Date:** 04/03/19
Project No.:	20190264.003A		**Computed By:**	JP	**Date:** 04/03/19
Boring No.:	B-3		**Checked by:**	AP	**Date:** 04/03/19
Sample No.:	B-3-1	**Depth (ft):** 0-5			
Sample Type:	Remolded to 95% RC at opt. MC				
Soil Description:	Clayey Sand				
Test Condition:	Inundated	**Shear Rate:** 0.004 in/min			

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
129.8	120.1	8.1	14.8	54	99	1	0.864	0.708
						2	1.416	1.284
						4	2.495	2.388



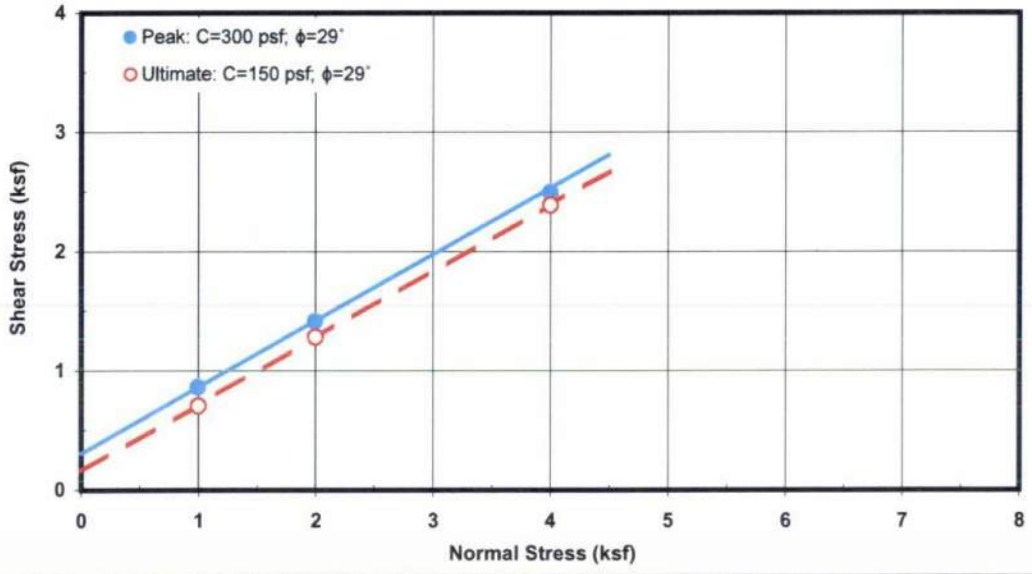


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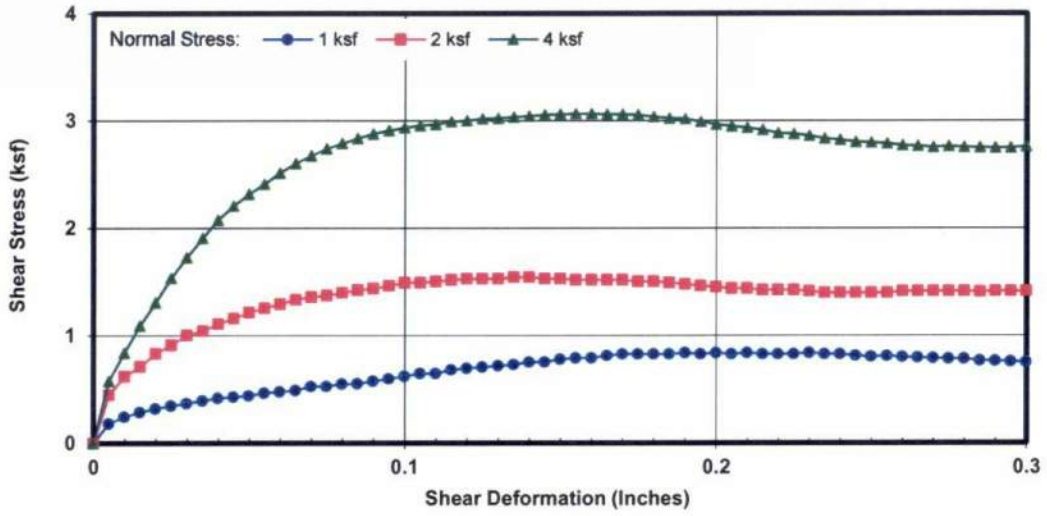
Figure B-8

DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name:	Sheldon Arleta		**Tested By:**	ST	**Date:** 04/01/19
Project No.:	20190264.003A		**Computed By:**	JP	**Date:** 04/03/19
Boring No.:	B-4		**Checked by:**	AP	**Date:** 04/03/19
Sample No.:	B-4-2	**Depth (ft):** 5-5.5			
Sample Type:	Mod. Cal.				
Soil Description:	Poorly-Graded Sand w/silt & gravel				
Test Condition:	Inundated	**Shear Rate:** 0.01 in/min			

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
106.1	104.0	2.0	21.0	9	91	1	0.840	0.755
						2	1.544	1.412
						4	3.066	2.760



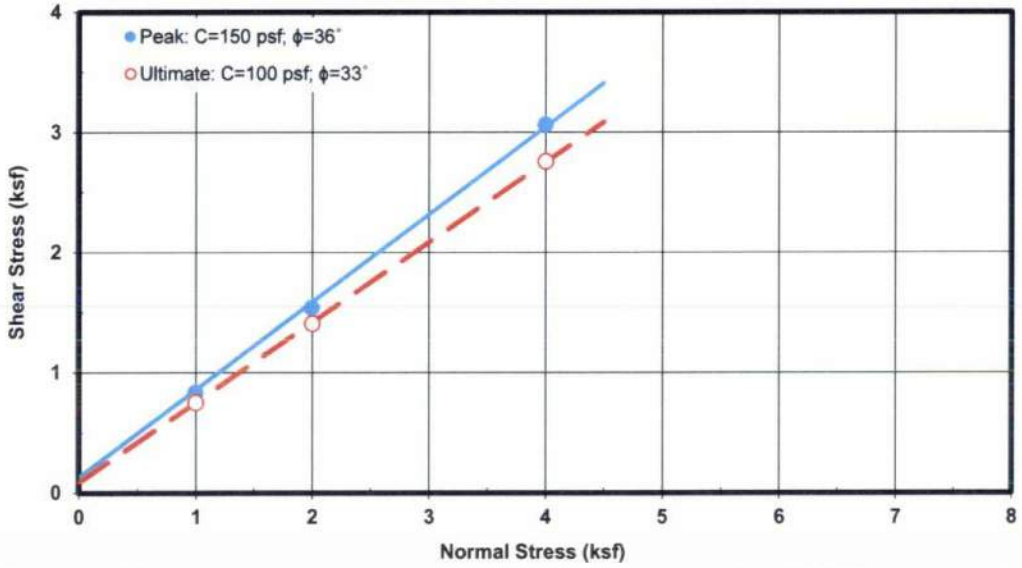


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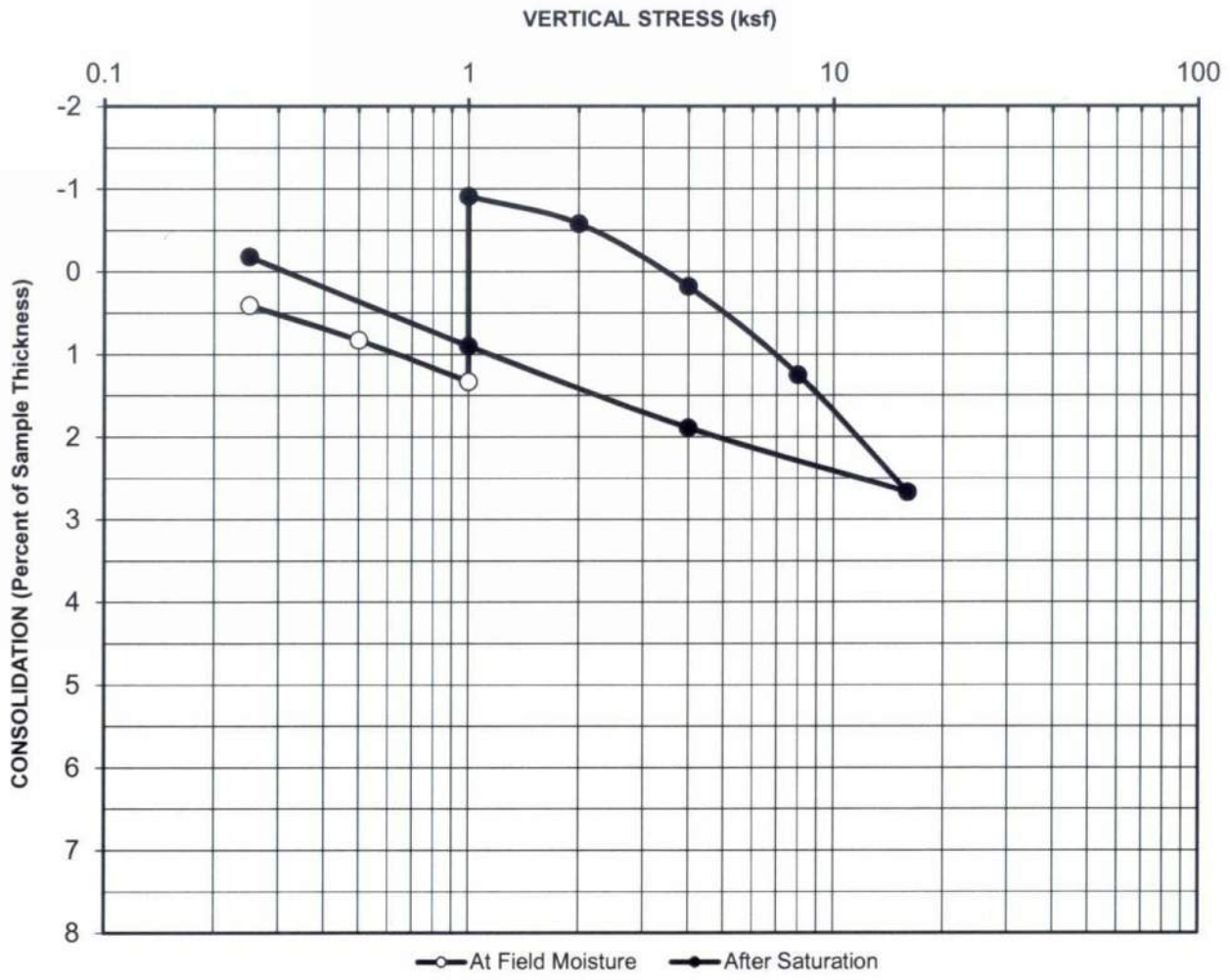
Figure B-9



Boring No. :	B-2	Initial Dry Unit Weight (pcf):	121.1
Sample No.:	B-2-1	Initial Moisture Content (%):	10.0
Depth (feet):	0-5	Final Moisture Content (%):	14.0
Sample Type:	Remolded to 95% RC at OMC	Assumed Specific Gravity:	2.7
Soil Description:	Clayey Sand	Initial Void Ratio:	0.39
Remarks:	Swell= 2.24% upon inundation		

CONSOLIDATION CURVE
ASTM D 2435

Project Name:	Sheldon Arleta		
Project No.:	20190264.003A		
Date:	3/29/2019		
AP No:	19-0361	**Figure No:**	1

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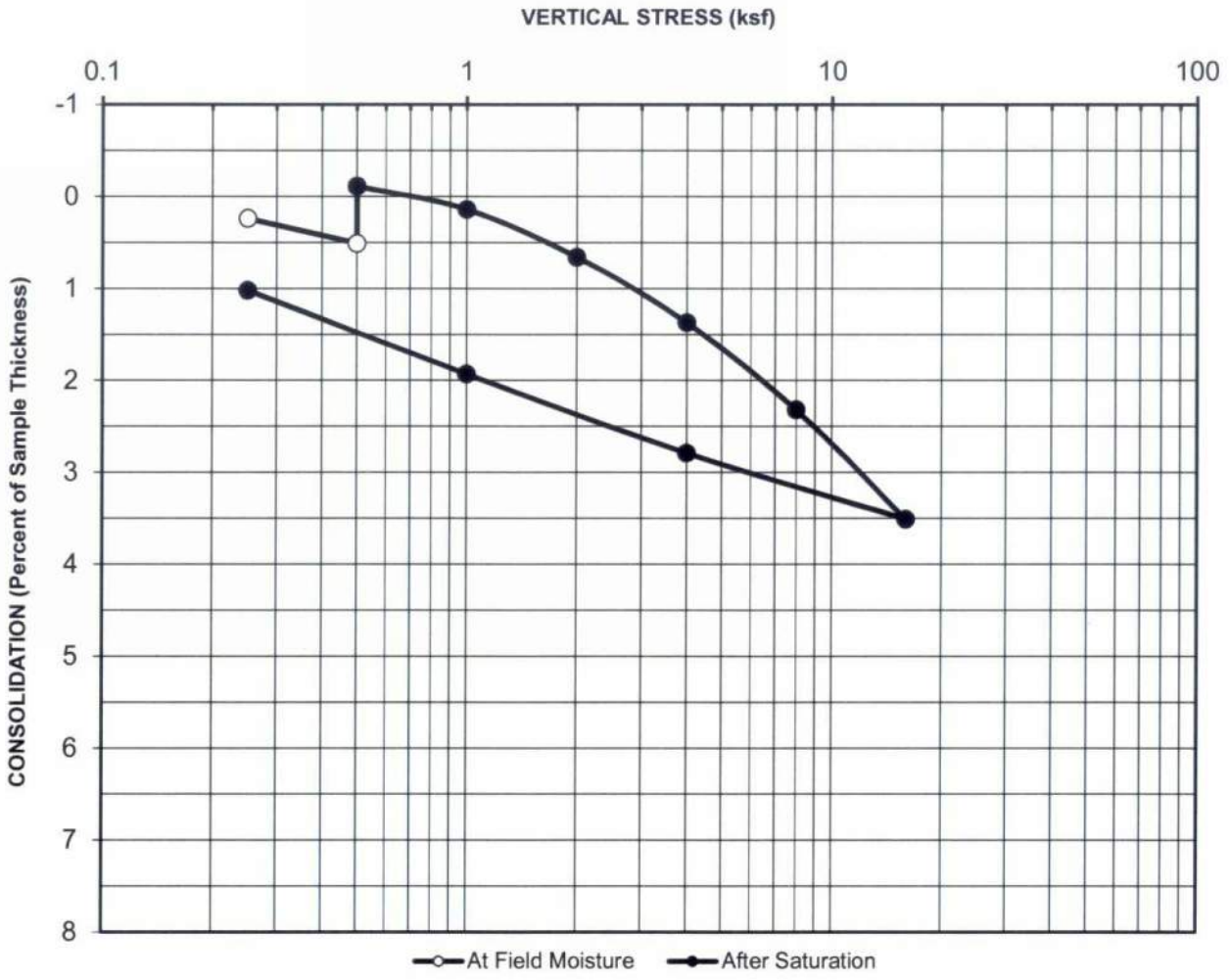
Figure B-10



Boring No. :	B-2	Initial Dry Unit Weight (pcf):	118.9
Sample No.:	B-2-2	Initial Moisture Content (%):	11.3
Depth (feet):	5-5.5	Final Moisture Content (%):	16.6
Sample Type:	Mod Cal	Assumed Specific Gravity:	2.7
Soil Description:	Clayey Sand	Initial Void Ratio:	0.42
Remarks:	Swell= 0.62% upon inundation		

CONSOLIDATION CURVE
ASTM D 2435

Project Name:	Sheldon Arleta
Project No.:	20190264.003A
Date:	3/28/2019
AP No:	19-0361 **Figure No:** 1

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Figure B-11



Boring No. :	B-2	Initial Dry Unit Weight (pcf):	104.0
Sample No.:	B-2-4	Initial Moisture Content (%):	1.7
Depth (feet):	15-15.5	Final Moisture Content (%):	17.3
Sample Type:	Mod Cal	Assumed Specific Gravity:	2.7
Soil Description:	Poorly-Graded Sand w/gravel	Initial Void Ratio:	0.62
Remarks:	Collapse= 1.79% upon inundation		

CONSOLIDATION CURVE
ASTM D 2435

Project Name:	Sheldon Arleta		
Project No.:	20190264.003A		
Date:	3/28/2019		
AP No:	19-0361	**Figure No:**	1

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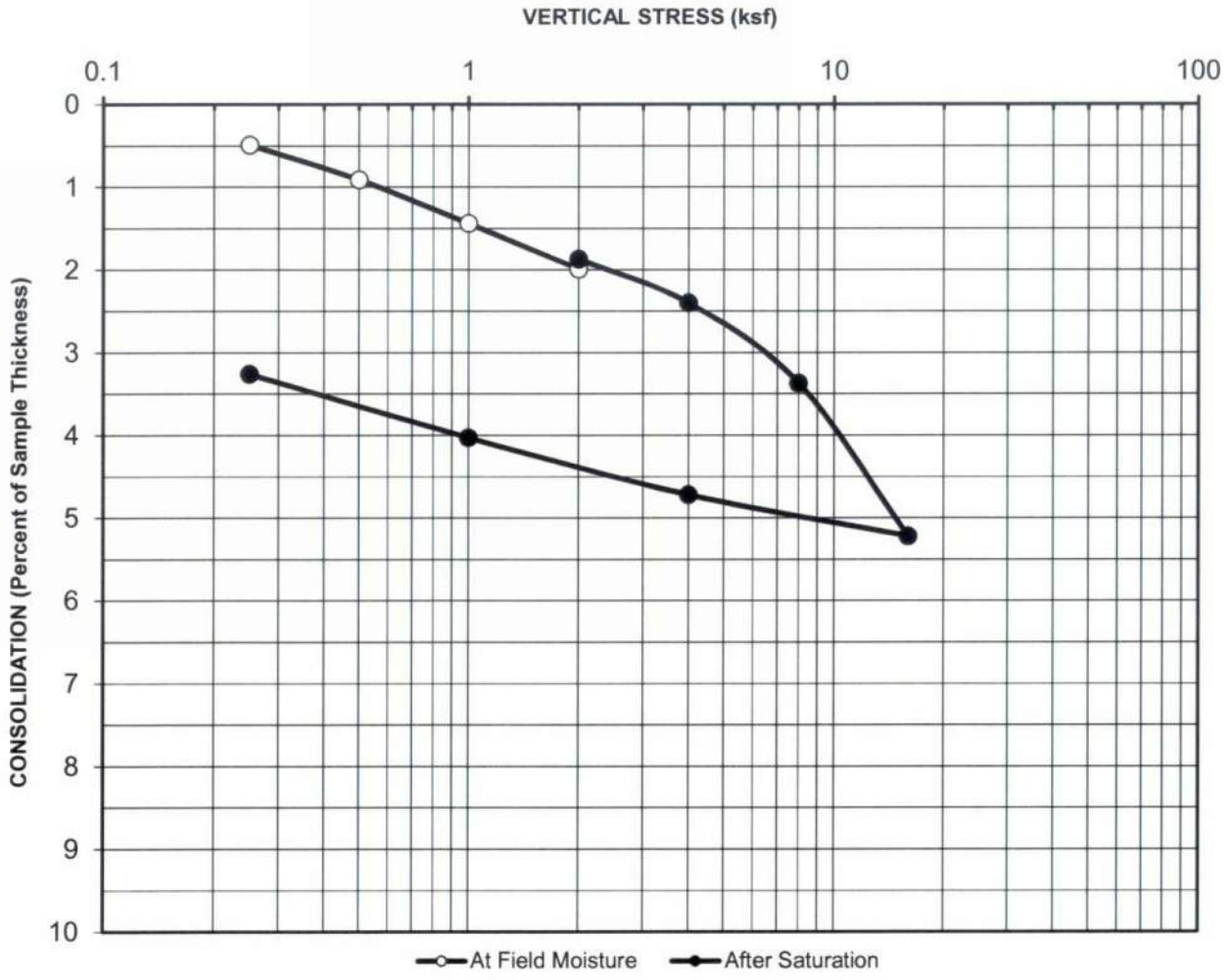
Figure B-12



Boring No. :	B-7	Initial Dry Unit Weight (pcf):	120.3
Sample No.:	B-7-1	Initial Moisture Content (%):	8.1
Depth (feet):	0-5	Final Moisture Content (%):	13.9
Sample Type:	Remolded to 95% of 126.6 pcf at 8% MC	Assumed Specific Gravity:	2.7
Soil Description:	Clayey Sand	Initial Void Ratio:	0.40
Remarks:	Swell= 0.12% upon inundation		

CONSOLIDATION CURVE
ASTM D 2435

Project Name:	Sheldon Arleta		
Project No.:	20190264.003A		
Date:	4/29/2019		
AP No:	19-0361	**Figure No:**	1

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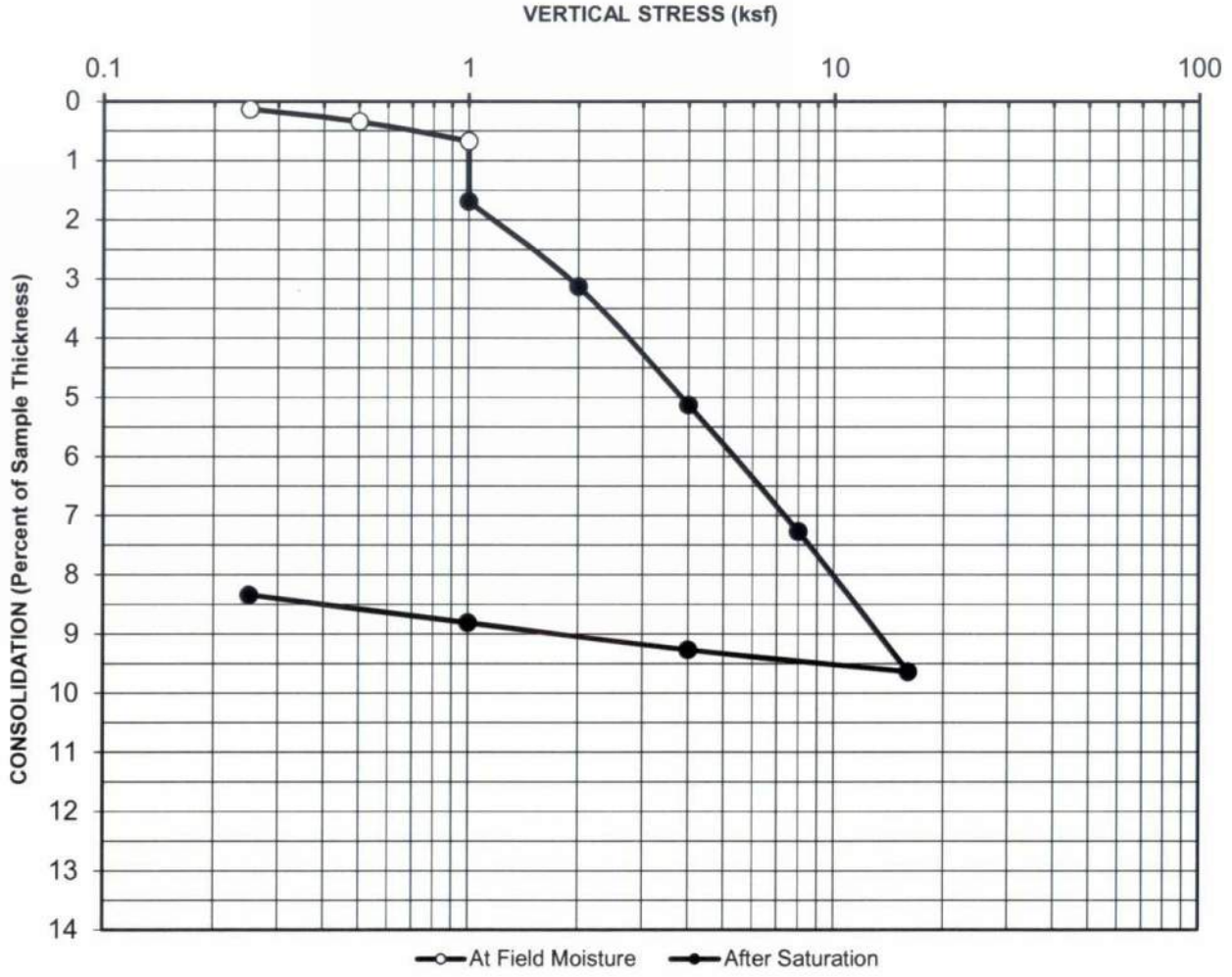
Figure B-13



Boring No. :	B-8	Initial Dry Unit Weight (pcf):	113.7
Sample No.:	B-8-2	Initial Moisture Content (%):	4.7
Depth (feet):	6-6.5	Final Moisture Content (%):	13.4
Sample Type:	Mod Cal	Assumed Specific Gravity:	2.7
Soil Description:	Silty Sand w/gravel	Initial Void Ratio:	0.48
Remarks:	Collapse= 1.02% upon inundation		

CONSOLIDATION CURVE
ASTM D 2435

Project Name:	Sheldon Arleta		
Project No.:	20190264.003A		
Date:	4/26/2019		
AP No:	19-0361	**Figure No:**	1

APPENDIX C
ENVIRONMENTAL LABORATORY RESULTS

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ADVANCED TECHNOLOGY LABORATORIES

March 26, 2019

Jeff Waller
Kleinfelder
707 Wilshire Blvd, Suite 1450
Los Angeles, CA 90017
Tel: (213) 622-3706
Fax:(213) 612-4954

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1900986
Client Reference : Sheldon Arleta, 20190264.003A

Enclosed are the results for sample(s) received on March 13, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E-2-0.5	1900986-01	Soil	3/13/19 13:20	3/13/19 15:07
E-2-1.0	1900986-02	Soil	3/13/19 13:25	3/13/19 15:07
E-2-2.5	1900986-03	Soil	3/13/19 13:30	3/13/19 15:07
E-2-5.0	1900986-04	Soil	3/13/19 13:50	3/13/19 15:07
E-2-10.0	1900986-05	Soil	3/13/19 14:00	3/13/19 15:07
E-1-0.5	1900986-06	Soil	3/13/19 14:30	3/13/19 15:07
E-1-1.0	1900986-07	Soil	3/13/19 14:33	3/13/19 15:07
E-1-2.5	1900986-08	Soil	3/13/19 14:35	3/13/19 15:07
E-1-5.0	1900986-09	Soil	3/13/19 14:50	3/13/19 15:07
E-1-10.0	1900986-10	Soil	3/13/19 14:55	3/13/19 15:07

CASE NARRATIVE

The samples for Herbicides (EPA 8151) analyses were subcontracted to AETL with ELAP Cert.# 1541.

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

DETECTION SUMMARY

Client Sample ID E-2-0.5

Lab ID: 1900986-01

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**2.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Barium	**81**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Chromium	**13**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Cobalt	**5.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Copper	**11**	2.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Lead	**5.7**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Nickel	**10**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Vanadium	**26**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Zinc	**35**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	

Client Sample ID E-2-1.0

Lab ID: 1900986-02

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.5**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Barium	**93**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Chromium	**16**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Cobalt	**6.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Copper	**14**	2.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Lead	**3.2**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Molybdenum	**1.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Nickel	**17**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Vanadium	**28**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Zinc	**39**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

DETECTION SUMMARY

Client Sample ID E-2-2.5

Lab ID: 1900986-03

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Barium	**96**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Chromium	**16**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Cobalt	**6.5**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Copper	**14**	2.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Lead	**3.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Molybdenum	**1.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Nickel	**16**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Selenium	**1.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Vanadium	**29**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Zinc	**39**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**1.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Barium	**64**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Chromium	**7.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Cobalt	**5.0**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Copper	**7.7**	2.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Lead	**4.0**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Nickel	**5.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Vanadium	**20**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Zinc	**37**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
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DETECTION SUMMARY

Client Sample ID E-2-10.0

Lab ID: 1900986-05

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Barium	**41**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Chromium	**4.4**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Cobalt	**3.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Copper	**6.7**	2.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Lead	**1.8**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Nickel	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Vanadium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Zinc	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
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DETECTION SUMMARY

Client Sample ID E-1-0.5

Lab ID: 1900986-06

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified) — **Analyst: DT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	**70**	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Barium	**87**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Chromium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Cobalt	**5.9**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Copper	**12**	2.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Lead	**4.5**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Molybdenum	**1.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Nickel	**13**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Vanadium	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Zinc	**34**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	

Organochlorine Pesticides by EPA 8081 — **Analyst: KD/**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	**24**	10	5	B9C0705	03/23/2019	03/26/19 10:03	
4,4´-DDE [2C]	**210**	10	5	B9C0705	03/23/2019	03/26/19 10:03	
4,4´-DDT [2C]	**230**	10	5	B9C0705	03/23/2019	03/26/19 10:03	

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Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
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DETECTION SUMMARY

Client Sample ID E-1-1.0

Lab ID: 1900986-07

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Barium	**84**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Chromium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Cobalt	**6.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Copper	**12**	2.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Lead	**4.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Molybdenum	**1.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Nickel	**12**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Vanadium	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Zinc	**34**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	

Client Sample ID E-1-2.5

Lab ID: 1900986-08

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**1.9**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Barium	**59**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Chromium	**10**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Cobalt	**4.6**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Copper	**8.2**	2.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Lead	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Nickel	**8.1**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Vanadium	**19**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Zinc	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	

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DETECTION SUMMARY

Client Sample ID E-1-5.0

Lab ID: 1900986-09

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Barium	**850**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Chromium	**20**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Cobalt	**5.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Copper	**19**	2.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Lead	**18**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Nickel	**9.5**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Vanadium	**23**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Zinc	**43**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	

Client Sample ID E-1-10.0

Lab ID: 1900986-10

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**1.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Barium	**43**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Chromium	**4.7**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Cobalt	**3.5**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Copper	**5.1**	2.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Lead	**2.3**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Nickel	**3.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Vanadium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Zinc	**17**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
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Client Sample ID E-2-0.5

Lab ID: 1900986-01

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified) — **Analyst: DT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Arsenic	**2.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Barium	**81**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Chromium	**13**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Cobalt	**5.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Copper	**11**	2.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Lead	**5.7**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Molybdenum	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Nickel	**10**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Vanadium	**26**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	
Zinc	**35**	1.0	1	B9C0426	03/18/2019	03/19/19 10:48	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:28	

Polychlorinated Biphenyls by EPA 8082 — **Analyst: KD/**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1221	ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1232	ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1242	ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	

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Client Sample ID E-2-0.5

Lab ID: 1900986-01

Polychlorinated Biphenyls by EPA 8082 **Analyst: KD/**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1248		ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1254		ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1260		ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1262		ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Aroclor 1268		ND	16	1	B9C0705	03/23/2019	03/25/19 18:58	
Surrogate: Decachlorobiphenyl	*48.9 %*		*38 - 117*		B9C0705	03/23/2019	*03/25/19 18:58*	
Surrogate: Tetrachloro-m-xylene	*60.5 %*		*39 - 121*		B9C0705	03/23/2019	*03/25/19 18:58*	

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Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
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Client Sample ID E-2-1.0

Lab ID: 1900986-02

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Arsenic	**3.5**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Barium	**93**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Chromium	**16**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Cobalt	**6.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Copper	**14**	2.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Lead	**3.2**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Molybdenum	**1.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Nickel	**17**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Vanadium	**28**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	
Zinc	**39**	1.0	1	B9C0426	03/18/2019	03/19/19 10:49	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:30	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,1,1-Trichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,1,2-Trichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	

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Lab ID: 1900986-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,1-Dichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,1-Dichloropropene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2,3-Trichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2,3-Trichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2,4-Trichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2,4-Trimethylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2-Dibromo-3-chloropropane	ND	8.8	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2-Dibromoethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2-Dichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2-Dichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,2-Dichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,3,5-Trimethylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,3-Dichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,3-Dichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
1,4-Dichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
2,2-Dichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
2-Chlorotoluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
4-Chlorotoluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
4-Isopropyltoluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Benzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Bromobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Bromochloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Bromodichloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Bromoform	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Bromomethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Carbon disulfide	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Carbon tetrachloride	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Chlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Chloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Chloroform	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Chloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
cis-1,2-Dichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
cis-1,3-Dichloropropene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Di-isopropyl ether	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Dibromochloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Dibromomethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-1.0

Lab ID: 1900986-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Ethyl Acetate	ND	44	1	B9C0392	03/15/2019	03/15/19 17:22	
Ethyl Ether	ND	44	1	B9C0392	03/15/2019	03/15/19 17:22	
Ethyl tert-butyl ether	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Ethylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Freon-113	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Hexachlorobutadiene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Isopropylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
m,p-Xylene	ND	8.8	1	B9C0392	03/15/2019	03/15/19 17:22	
Methylene chloride	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
MTBE	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
n-Butylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
n-Propylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Naphthalene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
o-Xylene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
sec-Butylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Styrene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
tert-Amyl methyl ether	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
tert-Butanol	ND	88	1	B9C0392	03/15/2019	03/15/19 17:22	
tert-Butylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Tetrachloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Toluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
trans-1,2-Dichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
trans-1,3-Dichloropropene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Trichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Trichlorofluoromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Vinyl acetate	ND	44	1	B9C0392	03/15/2019	03/15/19 17:22	
Vinyl chloride	ND	4.4	1	B9C0392	03/15/2019	03/15/19 17:22	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 17:22*	
Surrogate: 4-Bromofluorobenzene	*94.7 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 17:22*	
Surrogate: Dibromofluoromethane	*105 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 17:22*	
Surrogate: Toluene-d8	*105 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 17:22*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-2.5

Lab ID: 1900986-03

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Arsenic	**3.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Barium	**96**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Chromium	**16**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Cobalt	**6.5**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Copper	**14**	2.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Lead	**3.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Molybdenum	**1.6**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Nickel	**16**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Selenium	**1.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Vanadium	**29**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	
Zinc	**39**	1.0	1	B9C0426	03/18/2019	03/19/19 10:50	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:32	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,1,1-Trichloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,1,2,2-Tetrachloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,1,2-Trichloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-2.5

Lab ID: 1900986-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,1-Dichloroethene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,1-Dichloropropene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2,3-Trichloropropane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2,3-Trichlorobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2,4-Trichlorobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2,4-Trimethylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2-Dibromo-3-chloropropane	ND	9.0	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2-Dibromoethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2-Dichlorobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2-Dichloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,2-Dichloropropane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,3,5-Trimethylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,3-Dichlorobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,3-Dichloropropane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
1,4-Dichlorobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
2,2-Dichloropropane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
2-Chlorotoluene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
4-Chlorotoluene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
4-Isopropyltoluene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Benzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Bromobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Bromochloromethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Bromodichloromethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Bromoform	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Bromomethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Carbon disulfide	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Carbon tetrachloride	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Chlorobenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Chloroethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Chloroform	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Chloromethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
cis-1,2-Dichloroethene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
cis-1,3-Dichloropropene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Di-isopropyl ether	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Dibromochloromethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Dibromomethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-2.5

Lab ID: 1900986-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Ethyl Acetate	ND	45	1	B9C0392	03/15/2019	03/15/19 09:37	
Ethyl Ether	ND	45	1	B9C0392	03/15/2019	03/15/19 09:37	
Ethyl tert-butyl ether	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Ethylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Freon-113	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Hexachlorobutadiene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Isopropylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
m,p-Xylene	ND	9.0	1	B9C0392	03/15/2019	03/15/19 09:37	
Methylene chloride	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
MTBE	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
n-Butylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
n-Propylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Naphthalene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
o-Xylene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
sec-Butylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Styrene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
tert-Amyl methyl ether	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
tert-Butanol	ND	90	1	B9C0392	03/15/2019	03/15/19 09:37	
tert-Butylbenzene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Tetrachloroethene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Toluene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
trans-1,2-Dichloroethene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
trans-1,3-Dichloropropene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Trichloroethene	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Trichlorofluoromethane	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Vinyl acetate	ND	45	1	B9C0392	03/15/2019	03/15/19 09:37	
Vinyl chloride	ND	4.5	1	B9C0392	03/15/2019	03/15/19 09:37	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 09:37*	
Surrogate: 4-Bromofluorobenzene	*96.9 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 09:37*	
Surrogate: Dibromofluoromethane	*108 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 09:37*	
Surrogate: Toluene-d8	*108 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 09:37*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Arsenic	**1.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Barium	**64**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Chromium	**7.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Cobalt	**5.0**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Copper	**7.7**	2.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Lead	**4.0**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Molybdenum	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Nickel	**5.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Vanadium	**20**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	
Zinc	**37**	1.0	1	B9C0426	03/18/2019	03/19/19 10:53	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:40	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.83	1	B9C0390	03/15/2019	03/15/19 12:21	
Surrogate: 4-Bromofluorobenzene *103 %*		*45 - 149*		B9C0390	03/15/2019	*03/15/19 12:21*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Organochlorine Pesticides by EPA 8081 **Analyst: KD/**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
4,4´-DDE [2C]	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
4,4´-DDT [2C]	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Aldrin	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
alpha-BHC	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
alpha-Chlordane [2C]	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
beta-BHC	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Chlordane	ND	8.5	1	B9C0705	03/23/2019	03/25/19 17:24	
delta-BHC	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Dieldrin	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Endosulfan I	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Endosulfan II	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Endosulfan sulfate	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Endrin	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Endrin aldehyde	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Endrin ketone	ND	2.0	1	B9C0705	03/23/2019	03/25/19 17:24	
gamma-BHC	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
gamma-Chlordane [2C]	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Heptachlor	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Heptachlor epoxide	ND	1.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Methoxychlor	ND	5.0	1	B9C0705	03/23/2019	03/25/19 17:24	
Toxaphene	ND	50	1	B9C0705	03/23/2019	03/25/19 17:24	
Surrogate: Decachlorobiphenyl	*66.7 %*	*32 - 91*		B9C0705	03/23/2019	*03/25/19 17:24*	
Surrogate: Tetrachloro-m-xylene	*71.3 %*	*38 - 93*		B9C0705	03/23/2019	*03/25/19 17:24*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,1,1-Trichloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,1,2,2-Tetrachloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,1,2-Trichloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,1-Dichloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,1-Dichloroethene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,1-Dichloropropene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2,3-Trichloropropane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2,3-Trichlorobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2,4-Trichlorobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2,4-Trimethylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2-Dibromo-3-chloropropane	ND	7.7	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2-Dibromoethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2-Dichlorobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2-Dichloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,2-Dichloropropane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,3,5-Trimethylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,3-Dichlorobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,3-Dichloropropane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
1,4-Dichlorobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
2,2-Dichloropropane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
2-Chlorotoluene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
4-Chlorotoluene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
4-Isopropyltoluene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Benzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Bromobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Bromochloromethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Bromodichloromethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Bromoform	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Bromomethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Carbon disulfide	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Carbon tetrachloride	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Chlorobenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Chloroethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Chloroform	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Chloromethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
cis-1,2-Dichloroethene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Di-isopropyl ether	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Dibromochloromethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Dibromomethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Dichlorodifluoromethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Ethyl Acetate	ND	39	1	B9C0392	03/15/2019	03/15/19 10:33	
Ethyl Ether	ND	39	1	B9C0392	03/15/2019	03/15/19 10:33	
Ethyl tert-butyl ether	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Ethylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Freon-113	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Hexachlorobutadiene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Isopropylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
m,p-Xylene	ND	7.7	1	B9C0392	03/15/2019	03/15/19 10:33	
Methylene chloride	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
MTBE	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
n-Butylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
n-Propylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Naphthalene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
o-Xylene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
sec-Butylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Styrene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
tert-Amyl methyl ether	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
tert-Butanol	ND	77	1	B9C0392	03/15/2019	03/15/19 10:33	
tert-Butylbenzene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Tetrachloroethene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Toluene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
trans-1,2-Dichloroethene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
trans-1,3-Dichloropropene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Trichloroethene	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Trichlorofluoromethane	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Vinyl acetate	ND	39	1	B9C0392	03/15/2019	03/15/19 10:33	
Vinyl chloride	ND	3.9	1	B9C0392	03/15/2019	03/15/19 10:33	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 10:33*	
Surrogate: 4-Bromofluorobenzene	*97.7 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 10:33*	
Surrogate: Dibromofluoromethane	*107 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 10:33*	
Surrogate: Toluene-d8	*105 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 10:33*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
1,2-Dichlorobenzene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
1,3-Dichlorobenzene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
1,4-Dichlorobenzene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,4,5-Trichlorophenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,4,6-Trichlorophenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,4-Dichlorophenol	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,4-Dimethylphenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,4-Dinitrophenol	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,4-Dinitrotoluene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2,6-Dinitrotoluene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2-Chloronaphthalene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2-Chlorophenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2-Methylnaphthalene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2-Methylphenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2-Nitroaniline	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
2-Nitrophenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
3,3´-Dichlorobenzidine	ND	6600	10	B9C0661	03/23/2019	03/25/19 14:15	D1
3-Nitroaniline	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4,6-Dinitro-2-methyphenol	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Bromophenyl-phenylether	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Chloro-3-methylphenol	ND	6600	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Chloroaniline	ND	6600	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Chlorophenyl-phenylether	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Methylphenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Nitroaniline	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
4-Nitrophenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Acenaphthene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Acenaphthylene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Anthracene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzidine (M)	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzo(a)anthracene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzo(a)pyrene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzo(b)fluoranthene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzo(g,h,i)perylene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzo(k)fluoranthene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Benzoic acid	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzyl alcohol	ND	6600	10	B9C0661	03/23/2019	03/25/19 14:15	D1
bis(2-chloroethoxy)methane	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
bis(2-Chloroethyl)ether	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
bis(2-chloroisopropyl)ether	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
bis(2-ethylhexyl)phthalate	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Butylbenzylphthalate	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Chrysene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Di-n-butylphthalate	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Di-n-octylphthalate	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Dibenz(a,h)anthracene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Dibenzofuran	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Diethyl phthalate	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Dimethyl phthalate	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Fluoranthene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Fluorene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Hexachlorobenzene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Hexachlorobutadiene	ND	6600	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Hexachlorocyclopentadiene	ND	6600	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Hexachloroethane	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Indeno(1,2,3-cd)pyrene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Isophorone	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
N-Nitroso-di-n propylamine	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
N-Nitrosodiphenylamine	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Naphthalene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Nitrobenzene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Pentachlorophenol	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Phenanthrene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Phenol	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Pyrene	ND	3300	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Pyridine	ND	16000	10	B9C0661	03/23/2019	03/25/19 14:15	D1
Surrogate: 1,2-Dichlorobenzene-d4	*41.9 %*	*16 - 87*		B9C0661	03/23/2019	*03/25/19 14:15*	
Surrogate: 2,4,6-Tribromophenol	*48.2 %*	*0 - 148*		B9C0661	03/23/2019	*03/25/19 14:15*	
Surrogate: 2-Chlorophenol-d4	*52.5 %*	*17 - 96*		B9C0661	03/23/2019	*03/25/19 14:15*	
Surrogate: 2-Fluorobiphenyl	*50.3 %*	*16 - 107*		B9C0661	03/23/2019	*03/25/19 14:15*	
Surrogate: 2-Fluorophenol	*44.6 %*	*16 - 86*		B9C0661	03/23/2019	*03/25/19 14:15*	
Surrogate: 4-Terphenyl-d14	*55.7 %*	*3 - 156*		B9C0661	03/23/2019	*03/25/19 14:15*	
Surrogate: Nitrobenzene-d5	*40.2 %*	*16 - 99*		B9C0661	03/23/2019	*03/25/19 14:15*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-5.0

Lab ID: 1900986-04

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Phenol-d6	*48.6 %*	*17 - 90*		B9C0661	03/23/2019	*03/25/19 14:15*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-10.0

Lab ID: 1900986-05

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Arsenic	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Barium	**41**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Chromium	**4.4**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Cobalt	**3.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Copper	**6.7**	2.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Lead	**1.8**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Molybdenum	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Nickel	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Vanadium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	
Zinc	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 10:54	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:42	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,1,1-Trichloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,1,2,2-Tetrachloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,1,2-Trichloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-10.0

Lab ID: 1900986-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,1-Dichloroethene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,1-Dichloropropene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2,3-Trichloropropane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2,3-Trichlorobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2,4-Trichlorobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2,4-Trimethylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2-Dibromo-3-chloropropane	ND	9.1	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2-Dibromoethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2-Dichlorobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2-Dichloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,2-Dichloropropane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,3,5-Trimethylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,3-Dichlorobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,3-Dichloropropane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
1,4-Dichlorobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
2,2-Dichloropropane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
2-Chlorotoluene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
4-Chlorotoluene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
4-Isopropyltoluene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Benzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Bromobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Bromochloromethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Bromodichloromethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Bromoform	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Bromomethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Carbon disulfide	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Carbon tetrachloride	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Chlorobenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Chloroethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Chloroform	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Chloromethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
cis-1,2-Dichloroethene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
cis-1,3-Dichloropropene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Di-isopropyl ether	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Dibromochloromethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Dibromomethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-2-10.0

Lab ID: 1900986-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Ethyl Acetate	ND	46	1	B9C0392	03/15/2019	03/15/19 10:52	
Ethyl Ether	ND	46	1	B9C0392	03/15/2019	03/15/19 10:52	
Ethyl tert-butyl ether	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Ethylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Freon-113	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Hexachlorobutadiene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Isopropylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
m,p-Xylene	ND	9.1	1	B9C0392	03/15/2019	03/15/19 10:52	
Methylene chloride	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
MTBE	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
n-Butylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
n-Propylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Naphthalene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
o-Xylene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
sec-Butylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Styrene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
tert-Amyl methyl ether	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
tert-Butanol	ND	91	1	B9C0392	03/15/2019	03/15/19 10:52	
tert-Butylbenzene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Tetrachloroethene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Toluene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
trans-1,2-Dichloroethene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
trans-1,3-Dichloropropene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Trichloroethene	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Trichlorofluoromethane	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Vinyl acetate	ND	46	1	B9C0392	03/15/2019	03/15/19 10:52	
Vinyl chloride	ND	4.6	1	B9C0392	03/15/2019	03/15/19 10:52	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 10:52*	
Surrogate: 4-Bromofluorobenzene	*95.3 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 10:52*	
Surrogate: Dibromofluoromethane	*110 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 10:52*	
Surrogate: Toluene-d8	*106 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 10:52*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-0.5

Lab ID: 1900986-06

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified) — **Analyst: DT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	**70**	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Arsenic	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Barium	**87**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Chromium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Cobalt	**5.9**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Copper	**12**	2.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Lead	**4.5**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Molybdenum	**1.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Nickel	**13**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Vanadium	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	
Zinc	**34**	1.0	1	B9C0426	03/18/2019	03/19/19 10:55	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:47	

Organochlorine Pesticides by EPA 8081 — **Analyst: KD/**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	**24**	10	5	B9C0705	03/23/2019	03/26/19 10:03	
4,4´-DDE [2C]	**210**	10	5	B9C0705	03/23/2019	03/26/19 10:03	
4,4´-DDT [2C]	**230**	10	5	B9C0705	03/23/2019	03/26/19 10:03	
Aldrin	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-0.5

Lab ID: 1900986-06

Organochlorine Pesticides by EPA 8081 **Analyst: KD/**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
alpha-BHC	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
alpha-Chlordane	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
beta-BHC	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
Chlordane	ND	42	5	B9C0705	03/23/2019	03/26/19 10:03	
delta-BHC	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
Dieldrin	ND	10	5	B9C0705	03/23/2019	03/26/19 10:03	
Endosulfan I	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
Endosulfan II	ND	10	5	B9C0705	03/23/2019	03/26/19 10:03	
Endosulfan sulfate	ND	10	5	B9C0705	03/23/2019	03/26/19 10:03	
Endrin	ND	10	5	B9C0705	03/23/2019	03/26/19 10:03	
Endrin aldehyde	ND	10	5	B9C0705	03/23/2019	03/26/19 10:03	
Endrin ketone	ND	10	5	B9C0705	03/23/2019	03/26/19 10:03	
gamma-BHC	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
gamma-Chlordane	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
Heptachlor	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
Heptachlor epoxide	ND	5.0	5	B9C0705	03/23/2019	03/26/19 10:03	
Methoxychlor	ND	25	5	B9C0705	03/23/2019	03/26/19 10:03	
Toxaphene	ND	250	5	B9C0705	03/23/2019	03/26/19 10:03	
Surrogate: Decachlorobiphenyl	*58.9 %*	*32 - 91*		B9C0705	03/23/2019	*03/26/19 10:03*	
Surrogate: Tetrachloro-m-xylene	*60.5 %*	*38 - 93*		B9C0705	03/23/2019	*03/26/19 10:03*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-1.0

Lab ID: 1900986-07

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified) — **Analyst: DT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Arsenic	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Barium	**84**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Chromium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Cobalt	**6.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Copper	**12**	2.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Lead	**4.3**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Molybdenum	**1.1**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Nickel	**12**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Vanadium	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	
Zinc	**34**	1.0	1	B9C0426	03/18/2019	03/19/19 10:59	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:49	

Volatile Organic Compounds by EPA 5035/EPA 8260B — **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,1,1-Trichloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,1,2,2-Tetrachloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,1,2-Trichloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-1.0

Lab ID: 1900986-07

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,1-Dichloroethene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,1-Dichloropropene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2,3-Trichloropropane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2,3-Trichlorobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2,4-Trichlorobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2,4-Trimethylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2-Dibromo-3-chloropropane	ND	8.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2-Dibromoethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2-Dichlorobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2-Dichloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,2-Dichloropropane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,3,5-Trimethylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,3-Dichlorobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,3-Dichloropropane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
1,4-Dichlorobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
2,2-Dichloropropane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
2-Chlorotoluene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
4-Chlorotoluene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
4-Isopropyltoluene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Benzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Bromobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Bromochloromethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Bromodichloromethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Bromoform	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Bromomethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Carbon disulfide	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Carbon tetrachloride	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Chlorobenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Chloroethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Chloroform	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Chloromethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
cis-1,2-Dichloroethene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
cis-1,3-Dichloropropene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Di-isopropyl ether	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Dibromochloromethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Dibromomethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-1.0

Lab ID: 1900986-07

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Ethyl Acetate	ND	41	1	B9C0392	03/15/2019	03/15/19 11:11	
Ethyl Ether	ND	41	1	B9C0392	03/15/2019	03/15/19 11:11	
Ethyl tert-butyl ether	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Ethylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Freon-113	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Hexachlorobutadiene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Isopropylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
m,p-Xylene	ND	8.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Methylene chloride	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
MTBE	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
n-Butylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
n-Propylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Naphthalene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
o-Xylene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
sec-Butylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Styrene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
tert-Amyl methyl ether	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
tert-Butanol	ND	81	1	B9C0392	03/15/2019	03/15/19 11:11	
tert-Butylbenzene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Tetrachloroethene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Toluene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
trans-1,2-Dichloroethene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
trans-1,3-Dichloropropene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Trichloroethene	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Trichlorofluoromethane	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Vinyl acetate	ND	41	1	B9C0392	03/15/2019	03/15/19 11:11	
Vinyl chloride	ND	4.1	1	B9C0392	03/15/2019	03/15/19 11:11	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 11:11*	
Surrogate: 4-Bromofluorobenzene	*95.9 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 11:11*	
Surrogate: Dibromofluoromethane	*109 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 11:11*	
Surrogate: Toluene-d8	*106 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 11:11*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-2.5

Lab ID: 1900986-08

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Arsenic	**1.9**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Barium	**59**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Chromium	**10**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Cobalt	**4.6**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Copper	**8.2**	2.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Lead	**3.1**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Molybdenum	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Nickel	**8.1**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Vanadium	**19**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	
Zinc	**25**	1.0	1	B9C0426	03/18/2019	03/19/19 11:00	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:51	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,1,1-Trichloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,1,2,2-Tetrachloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,1,2-Trichloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-2.5

Lab ID: 1900986-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,1-Dichloroethene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,1-Dichloropropene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2,3-Trichloropropane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2,3-Trichlorobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2,4-Trichlorobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2,4-Trimethylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2-Dibromo-3-chloropropane	ND	6.3	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2-Dibromoethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2-Dichlorobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2-Dichloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,2-Dichloropropane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,3,5-Trimethylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,3-Dichlorobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,3-Dichloropropane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
1,4-Dichlorobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
2,2-Dichloropropane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
2-Chlorotoluene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
4-Chlorotoluene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
4-Isopropyltoluene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Benzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Bromobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Bromochloromethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Bromodichloromethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Bromoform	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Bromomethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Carbon disulfide	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Carbon tetrachloride	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Chlorobenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Chloroethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Chloroform	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Chloromethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
cis-1,2-Dichloroethene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
cis-1,3-Dichloropropene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Di-isopropyl ether	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Dibromochloromethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Dibromomethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-2.5

Lab ID: 1900986-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Ethyl Acetate	ND	32	1	B9C0392	03/15/2019	03/15/19 11:30	
Ethyl Ether	ND	32	1	B9C0392	03/15/2019	03/15/19 11:30	
Ethyl tert-butyl ether	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Ethylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Freon-113	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Hexachlorobutadiene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Isopropylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
m,p-Xylene	ND	6.3	1	B9C0392	03/15/2019	03/15/19 11:30	
Methylene chloride	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
MTBE	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
n-Butylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
n-Propylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Naphthalene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
o-Xylene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
sec-Butylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Styrene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
tert-Amyl methyl ether	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
tert-Butanol	ND	63	1	B9C0392	03/15/2019	03/15/19 11:30	
tert-Butylbenzene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Tetrachloroethene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Toluene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
trans-1,2-Dichloroethene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
trans-1,3-Dichloropropene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Trichloroethene	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Trichlorofluoromethane	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Vinyl acetate	ND	32	1	B9C0392	03/15/2019	03/15/19 11:30	
Vinyl chloride	ND	3.2	1	B9C0392	03/15/2019	03/15/19 11:30	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 11:30*	
Surrogate: 4-Bromofluorobenzene	*96.0 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 11:30*	
Surrogate: Dibromofluoromethane	*110 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 11:30*	
Surrogate: Toluene-d8	*105 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 11:30*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-5.0

Lab ID: 1900986-09

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Arsenic	**3.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Barium	**850**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Chromium	**20**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Cobalt	**5.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Copper	**19**	2.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Lead	**18**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Molybdenum	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Nickel	**9.5**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Vanadium	**23**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	
Zinc	**43**	1.0	1	B9C0426	03/18/2019	03/19/19 11:01	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:53	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,1,1-Trichloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,1,2,2-Tetrachloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,1,2-Trichloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-5.0

Lab ID: 1900986-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,1-Dichloroethene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,1-Dichloropropene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2,3-Trichloropropane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2,3-Trichlorobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2,4-Trichlorobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2,4-Trimethylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2-Dibromo-3-chloropropane	ND	11	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2-Dibromoethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2-Dichlorobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2-Dichloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,2-Dichloropropane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,3,5-Trimethylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,3-Dichlorobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,3-Dichloropropane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
1,4-Dichlorobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
2,2-Dichloropropane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
2-Chlorotoluene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
4-Chlorotoluene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
4-Isopropyltoluene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Benzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Bromobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Bromochloromethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Bromodichloromethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Bromoform	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Bromomethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Carbon disulfide	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Carbon tetrachloride	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Chlorobenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Chloroethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Chloroform	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Chloromethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
cis-1,2-Dichloroethene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
cis-1,3-Dichloropropene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Di-isopropyl ether	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Dibromochloromethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Dibromomethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-5.0

Lab ID: 1900986-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Ethyl Acetate	ND	55	1	B9C0392	03/15/2019	03/15/19 11:49	
Ethyl Ether	ND	55	1	B9C0392	03/15/2019	03/15/19 11:49	
Ethyl tert-butyl ether	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Ethylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Freon-113	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Hexachlorobutadiene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Isopropylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
m,p-Xylene	ND	11	1	B9C0392	03/15/2019	03/15/19 11:49	
Methylene chloride	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
MTBE	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
n-Butylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
n-Propylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Naphthalene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
o-Xylene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
sec-Butylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Styrene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
tert-Amyl methyl ether	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
tert-Butanol	ND	110	1	B9C0392	03/15/2019	03/15/19 11:49	
tert-Butylbenzene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Tetrachloroethene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Toluene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
trans-1,2-Dichloroethene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
trans-1,3-Dichloropropene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Trichloroethene	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Trichlorofluoromethane	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Vinyl acetate	ND	55	1	B9C0392	03/15/2019	03/15/19 11:49	
Vinyl chloride	ND	5.5	1	B9C0392	03/15/2019	03/15/19 11:49	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 11:49*	
Surrogate: 4-Bromofluorobenzene	*93.5 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 11:49*	
Surrogate: Dibromofluoromethane	*108 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 11:49*	
Surrogate: Toluene-d8	*104 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 11:49*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-10.0

Lab ID: 1900986-10

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified)

Analyst: DT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Petroleum Hydrocarbons	ND	50	1	B9C0569	03/20/2019	03/20/19 13:30	

Title 22 Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Arsenic	**1.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Barium	**43**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Beryllium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Cadmium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Chromium	**4.7**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Cobalt	**3.5**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Copper	**5.1**	2.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Lead	**2.3**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Molybdenum	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Nickel	**3.0**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Selenium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Silver	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Thallium	ND	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Vanadium	**14**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	
Zinc	**17**	1.0	1	B9C0426	03/18/2019	03/19/19 11:02	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9C0430	03/18/2019	03/20/19 10:55	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.88	1	B9C0390	03/15/2019	03/15/19 12:40	
Surrogate: 4-Bromofluorobenzene	*53.8 %*	*45 - 149*		B9C0390	03/15/2019	*03/15/19 12:40*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-10.0

Lab ID: 1900986-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,1,1-Trichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,1,2-Trichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,1-Dichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,1-Dichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,1-Dichloropropene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2,3-Trichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2,3-Trichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2,4-Trichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2,4-Trimethylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2-Dibromo-3-chloropropane	ND	8.9	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2-Dibromoethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2-Dichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2-Dichloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,2-Dichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,3,5-Trimethylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,3-Dichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,3-Dichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
1,4-Dichlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
2,2-Dichloropropane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
2-Chlorotoluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
4-Chlorotoluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
4-Isopropyltoluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Benzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Bromobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Bromochloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Bromodichloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Bromoform	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Bromomethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Carbon disulfide	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Carbon tetrachloride	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Chlorobenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Chloroethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Chloroform	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Chloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
cis-1,2-Dichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-10.0

Lab ID: 1900986-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Di-isopropyl ether	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Dibromochloromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Dibromomethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Dichlorodifluoromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Ethyl Acetate	ND	44	1	B9C0392	03/15/2019	03/15/19 12:08	
Ethyl Ether	ND	44	1	B9C0392	03/15/2019	03/15/19 12:08	
Ethyl tert-butyl ether	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Ethylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Freon-113	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Hexachlorobutadiene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Isopropylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
m,p-Xylene	ND	8.9	1	B9C0392	03/15/2019	03/15/19 12:08	
Methylene chloride	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
MTBE	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
n-Butylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
n-Propylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Naphthalene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
o-Xylene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
sec-Butylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Styrene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
tert-Amyl methyl ether	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
tert-Butanol	ND	89	1	B9C0392	03/15/2019	03/15/19 12:08	
tert-Butylbenzene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Tetrachloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Toluene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
trans-1,2-Dichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
trans-1,3-Dichloropropene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Trichloroethene	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Trichlorofluoromethane	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Vinyl acetate	ND	44	1	B9C0392	03/15/2019	03/15/19 12:08	
Vinyl chloride	ND	4.4	1	B9C0392	03/15/2019	03/15/19 12:08	
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*60 - 145*		B9C0392	03/15/2019	*03/15/19 12:08*	
Surrogate: 4-Bromofluorobenzene	*97.7 %*	*68 - 121*		B9C0392	03/15/2019	*03/15/19 12:08*	
Surrogate: Dibromofluoromethane	*109 %*	*65 - 137*		B9C0392	03/15/2019	*03/15/19 12:08*	
Surrogate: Toluene-d8	*106 %*	*82 - 119*		B9C0392	03/15/2019	*03/15/19 12:08*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-10.0

Lab ID: 1900986-10

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
1,2-Dichlorobenzene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
1,3-Dichlorobenzene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
1,4-Dichlorobenzene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2,4,5-Trichlorophenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2,4,6-Trichlorophenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2,4-Dichlorophenol	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
2,4-Dimethylphenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2,4-Dinitrophenol	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
2,4-Dinitrotoluene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2,6-Dinitrotoluene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2-Chloronaphthalene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2-Chlorophenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2-Methylnaphthalene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2-Methylphenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
2-Nitroaniline	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
2-Nitrophenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
3,3'-Dichlorobenzidine	ND	660	1	B9C0661	03/23/2019	03/25/19 12:31	
3-Nitroaniline	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
4,6-Dinitro-2-methyphenol	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Bromophenyl-phenylether	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Chloro-3-methylphenol	ND	660	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Chloroaniline	ND	660	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Chlorophenyl-phenylether	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Methylphenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Nitroaniline	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
4-Nitrophenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Acenaphthene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Acenaphthylene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Anthracene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzidine (M)	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzo(a)anthracene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzo(a)pyrene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzo(b)fluoranthene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzo(g,h,i)perylene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzo(k)fluoranthene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Benzoic acid	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Client Sample ID E-1-10.0

Lab ID: 1900986-10

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzyl alcohol	ND	660	1	B9C0661	03/23/2019	03/25/19 12:31	
bis(2-chloroethoxy)methane	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
bis(2-Chloroethyl)ether	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
bis(2-chloroisopropyl)ether	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
bis(2-ethylhexyl)phthalate	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Butylbenzylphthalate	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Chrysene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Di-n-butylphthalate	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Di-n-octylphthalate	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Dibenz(a,h)anthracene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Dibenzofuran	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Diethyl phthalate	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Dimethyl phthalate	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Fluoranthene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Fluorene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Hexachlorobenzene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Hexachlorobutadiene	ND	660	1	B9C0661	03/23/2019	03/25/19 12:31	
Hexachlorocyclopentadiene	ND	660	1	B9C0661	03/23/2019	03/25/19 12:31	
Hexachloroethane	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Indeno(1,2,3-cd)pyrene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Isophorone	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
N-Nitroso-di-n propylamine	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
N-Nitrosodiphenylamine	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Naphthalene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Nitrobenzene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Pentachlorophenol	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
Phenanthrene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Phenol	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Pyrene	ND	330	1	B9C0661	03/23/2019	03/25/19 12:31	
Pyridine	ND	1600	1	B9C0661	03/23/2019	03/25/19 12:31	
Surrogate: 1,2-Dichlorobenzene-d4	*53.8 %*	*16 - 87*		B9C0661	03/23/2019	*03/25/19 12:31*	
Surrogate: 2,4,6-Tribromophenol	*95.3 %*	*0 - 148*		B9C0661	03/23/2019	*03/25/19 12:31*	
Surrogate: 2-Chlorophenol-d4	*66.4 %*	*17 - 96*		B9C0661	03/23/2019	*03/25/19 12:31*	
Surrogate: 2-Fluorobiphenyl	*68.3 %*	*16 - 107*		B9C0661	03/23/2019	*03/25/19 12:31*	
Surrogate: 2-Fluorophenol	*57.5 %*	*16 - 86*		B9C0661	03/23/2019	*03/25/19 12:31*	
Surrogate: 4-Terphenyl-d14	*81.1 %*	*3 - 156*		B9C0661	03/23/2019	*03/25/19 12:31*	
Surrogate: Nitrobenzene-d5	*52.0 %*	*16 - 99*		B9C0661	03/23/2019	*03/25/19 12:31*	

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
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Client Sample ID E-1-10.0

Lab ID: 1900986-10

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Phenol-d6	*61.6 %*	*17 - 90*		B9C0661	03/23/2019	*03/25/19 12:31*	

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QUALITY CONTROL SECTION

Total Petroleum Hydrocarbons, HEM/SGT EPA 1664 (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0569 - Prep_WC2_S										
Blank (B9C0569-BLK1)					Prepared: 3/20/2019 Analyzed: 3/20/2019					
Total Petroleum Hydrocarbons	ND	50	42							
LCS (B9C0569-BS1)					Prepared: 3/20/2019 Analyzed: 3/20/2019					
Total Petroleum Hydrocarbons	1900.00	50	42	2000.00		95.0	80 - 120			
Matrix Spike (B9C0569-MS1)			**Source: 1900986-03**		Prepared: 3/20/2019 Analyzed: 3/20/2019					
Total Petroleum Hydrocarbons	2050.00	50	42	2000.00	ND	102	80 - 120			
Matrix Spike Dup (B9C0569-MSD1)			**Source: 1900986-03**		Prepared: 3/20/2019 Analyzed: 3/20/2019					
Total Petroleum Hydrocarbons	2070.00	50	42	2000.00	ND	104	80 - 120	0.971	20	

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0426 - EPA 3050B_S										
Blank (B9C0426-BLK1)					Prepared: 3/18/2019 Analyzed: 3/19/2019					
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B9C0426-BS1)					Prepared: 3/18/2019 Analyzed: 3/19/2019					
Antimony	43.2862	2.0	0.51	50.0000		86.6	80 - 120			
Arsenic	41.8720	1.0	0.12	50.0000		83.7	80 - 120			
Barium	44.5881	1.0	0.12	50.0000		89.2	80 - 120			
Beryllium	41.8667	1.0	0.03	50.0000		83.7	80 - 120			
Cadmium	41.9376	1.0	0.14	50.0000		83.9	80 - 120			
Chromium	44.3929	1.0	0.26	50.0000		88.8	80 - 120			
Cobalt	43.5217	1.0	0.07	50.0000		87.0	80 - 120			
Copper	45.4015	2.0	0.19	50.0000		90.8	80 - 120			
Lead	42.8492	1.0	0.18	50.0000		85.7	80 - 120			
Molybdenum	43.1633	1.0	0.12	50.0000		86.3	80 - 120			
Nickel	43.4785	1.0	0.18	50.0000		87.0	80 - 120			
Selenium	41.1497	1.0	0.40	50.0000		82.3	80 - 120			
Silver	43.4240	1.0	0.12	50.0000		86.8	80 - 120			
Thallium	43.0544	1.0	0.38	50.0000		86.1	80 - 120			
Vanadium	44.9365	1.0	0.06	50.0000		89.9	80 - 120			
Zinc	41.8411	1.0	0.15	50.0000		83.7	80 - 120			
Matrix Spike (B9C0426-MS1)			**Source: 1900986-03**		Prepared: 3/18/2019 Analyzed: 3/19/2019					
Antimony	59.6756	2.0	0.51	125.000	ND	47.7	21 - 102			
Arsenic	86.2590	1.0	0.12	125.000	3.61290	66.1	49 - 96			
Barium	182.598	1.0	0.12	125.000	96.1382	69.2	26 - 121			
Beryllium	84.6670	1.0	0.03	125.000	ND	67.7	51 - 96			
Cadmium	80.5127	1.0	0.14	125.000	0.792972	63.8	46 - 93			
Chromium	103.191	1.0	0.26	125.000	16.2845	69.5	44 - 107			

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0426 - EPA 3050B_S (continued)										
Matrix Spike (B9C0426-MS1) - Continued			**Source: 1900986-03**		Prepared: 3/18/2019 Analyzed: 3/19/2019					
Cobalt	88.2303	1.0	0.07	125.000	6.51782	65.4	49 - 100			
Copper	108.839	2.0	0.19	125.000	14.0810	75.8	46 - 115			
Lead	82.5946	1.0	0.18	125.000	3.29726	63.4	29 - 126			
Molybdenum	91.2226	1.0	0.12	125.000	1.62633	71.7	48 - 99			
Nickel	98.2976	1.0	0.18	125.000	16.2670	65.6	37 - 108			
Selenium	82.7506	1.0	0.40	125.000	1.07937	65.3	48 - 95			
Silver	85.0488	1.0	0.12	125.000	ND	68.0	53 - 99			
Thallium	78.0780	1.0	0.38	125.000	ND	62.5	38 - 93			
Vanadium	116.460	1.0	0.06	125.000	28.7071	70.2	48 - 104			
Zinc	118.173	1.0	0.15	125.000	38.6657	63.6	24 - 111			
Matrix Spike Dup (B9C0426-MSD1)			**Source: 1900986-03**		Prepared: 3/18/2019 Analyzed: 3/19/2019					
Antimony	57.5792	2.0	0.51	124.378	ND	46.3	21 - 102	3.58	20	
Arsenic	84.5621	1.0	0.12	124.378	3.61290	65.1	49 - 96	1.99	20	
Barium	179.816	1.0	0.12	124.378	96.1382	67.3	26 - 121	1.53	20	
Beryllium	84.4048	1.0	0.03	124.378	ND	67.9	51 - 96	0.310	20	
Cadmium	78.5137	1.0	0.14	124.378	0.792972	62.5	46 - 93	2.51	20	
Chromium	101.181	1.0	0.26	124.378	16.2845	68.3	44 - 107	1.97	20	
Cobalt	86.5373	1.0	0.07	124.378	6.51782	64.3	49 - 100	1.94	20	
Copper	105.426	2.0	0.19	124.378	14.0810	73.4	46 - 115	3.19	20	
Lead	80.7502	1.0	0.18	124.378	3.29726	62.3	29 - 126	2.26	20	
Molybdenum	88.9261	1.0	0.12	124.378	1.62633	70.2	48 - 99	2.55	20	
Nickel	96.0520	1.0	0.18	124.378	16.2670	64.1	37 - 108	2.31	20	
Selenium	79.6796	1.0	0.40	124.378	1.07937	63.2	48 - 95	3.78	20	
Silver	82.9947	1.0	0.12	124.378	ND	66.7	53 - 99	2.44	20	
Thallium	76.0898	1.0	0.38	124.378	ND	61.2	38 - 93	2.58	20	
Vanadium	113.758	1.0	0.06	124.378	28.7071	68.4	48 - 104	2.35	20	
Zinc	115.740	1.0	0.15	124.378	38.6657	62.0	24 - 111	2.08	20	

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Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0430 - EPA 7471_S										
Blank (B9C0430-BLK1)					Prepared: 3/18/2019 Analyzed: 3/20/2019					
Mercury	ND	0.10	0.007							
LCS (B9C0430-BS1)					Prepared: 3/18/2019 Analyzed: 3/20/2019					
Mercury	0.834211	0.10	0.007	0.833333		100	80 - 120			
Matrix Spike (B9C0430-MS1)			**Source: 1900986-03**		Prepared: 3/18/2019 Analyzed: 3/20/2019					
Mercury	0.946998	0.10	0.007	0.833333	0.024630	111	70 - 130			
Matrix Spike Dup (B9C0430-MSD1)			**Source: 1900986-03**		Prepared: 3/18/2019 Analyzed: 3/20/2019					
Mercury	0.966284	0.10	0.007	0.847458	0.024630	111	70 - 130	2.02	20	

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Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0430 - EPA 7471_S									
Post Spike (B9C0430-PS1)			**Source: 1900986-03**		Prepared: 3/18/2019 Analyzed: 3/20/2019				
Mercury	0.007132		5.00000E-3	0.000296	137	85 - 115			

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Gasoline Range Organics by EPA 8015B (Modified) (5035) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0390 - GCVOA_S										
Blank (B9C0390-BLK1)					Prepared: 3/15/2019 Analyzed: 3/15/2019					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2052*			*0.200000*		*103*	*45 - 149*			
LCS (B9C0390-BS1)					Prepared: 3/15/2019 Analyzed: 3/15/2019					
Gasoline Range Organics	5.00500	1.0	0.20	5.00000		100	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2125*			*0.200000*		*106*	*45 - 149*			
LCS Dup (B9C0390-BSD1)					Prepared: 3/15/2019 Analyzed: 3/15/2019					
Gasoline Range Organics	4.88700	1.0	0.20	5.00000		97.7	70 - 130	2.39	20	
Surrogate: 4-Bromofluorobenzene	*0.2074*			*0.200000*		*104*	*45 - 149*			

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Organochlorine Pesticides by EPA 8081 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S										
Blank (B9C0705-BLK1)					Prepared: 3/23/2019 Analyzed: 3/25/2019					
4,4'-DDD	ND	2.0	0.07							
4,4'-DDD [2C]	ND	2.0	0.07							
4,4'-DDE	ND	2.0	0.11							
4,4'-DDE [2C]	ND	2.0	0.11							
4,4'-DDT	ND	2.0	0.10							
4,4'-DDT [2C]	ND	2.0	0.10							
Aldrin	ND	1.0	0.12							
Aldrin [2C]	ND	1.0	0.12							
alpha-BHC	ND	1.0	0.11							
alpha-BHC [2C]	ND	1.0	0.11							
alpha-Chlordane	ND	1.0	0.12							
alpha-Chlordane [2C]	ND	1.0	0.12							
beta-BHC	ND	1.0	0.06							
beta-BHC [2C]	ND	1.0	0.06							
Chlordane	ND	8.5	1.1							
Chlordane [2C]	ND	8.5	1.1							
delta-BHC	ND	1.0	0.12							
delta-BHC [2C]	ND	1.0	0.12							
Dieldrin	ND	2.0	0.26							
Dieldrin [2C]	ND	2.0	0.26							
Endosulfan I	ND	1.0	0.10							
Endosulfan I [2C]	ND	1.0	0.10							
Endosulfan II	ND	2.0	0.15							
Endosulfan II [2C]	ND	2.0	0.15							
Endosulfan sulfate	ND	2.0	0.16							
Endosulfan Sulfate [2C]	ND	2.0	0.16							
Endrin	ND	2.0	0.14							
Endrin [2C]	ND	2.0	0.14							
Endrin aldehyde	ND	2.0	0.31							
Endrin aldehyde [2C]	ND	2.0	0.31							
Endrin ketone	ND	2.0	0.13							
Endrin ketone [2C]	ND	2.0	0.13							
gamma-BHC	ND	1.0	0.10							
gamma-BHC [2C]	ND	1.0	0.10							
gamma-Chlordane	ND	1.0	0.89							
gamma-Chlordane [2C]	ND	1.0	0.89							
Heptachlor	ND	1.0	0.12							
Heptachlor [2C]	ND	1.0	0.12							
Heptachlor epoxide	ND	1.0	0.09							
Heptachlor epoxide [2C]	ND	1.0	0.09							
Methoxychlor	ND	5.0	0.18							

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Organochlorine Pesticides by EPA 8081 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S (continued)										
Blank (B9C0705-BLK1) - Continued					Prepared: 3/23/2019 Analyzed: 3/25/2019					
Methoxychlor [2C]	ND	5.0	0.18							
Toxaphene	ND	50	4.7							
Toxaphene [2C]	ND	50	4.7							
Surrogate: Decachlorobiphenyl	*11.70*			*16.6667*		*70.2*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*12.00*			*16.6667*		*72.0*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*10.37*			*16.6667*		*62.2*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*10.92*			*16.6667*		*65.5*	*38 - 93*			
LCS (B9C0705-BS1)					Prepared: 3/23/2019 Analyzed: 3/25/2019					
4,4'-DDD	12.7297	2.0	0.07	16.6667		76.4	66 - 112			
4,4'-DDD [2C]	14.9173	2.0	0.07	16.6667		89.5	66 - 112			
4,4'-DDE	13.7282	2.0	0.11	16.6667		82.4	62 - 112			
4,4'-DDE [2C]	15.2637	2.0	0.11	16.6667		91.6	62 - 112			
4,4'-DDT	10.4427	2.0	0.10	16.6667		62.7	48 - 90			
4,4'-DDT [2C]	13.2813	2.0	0.10	16.6667		79.7	48 - 90			
Aldrin	13.8680	1.0	0.12	16.6667		83.2	58 - 104			
Aldrin [2C]	14.6668	1.0	0.12	16.6667		88.0	58 - 104			
alpha-BHC	13.7553	1.0	0.11	16.6667		82.5	57 - 105			
alpha-BHC [2C]	13.9158	1.0	0.11	16.6667		83.5	57 - 105			
alpha-Chlordane	13.5820	1.0	0.12	16.6667		81.5	62 - 108			
alpha-Chlordane [2C]	14.5448	1.0	0.12	16.6667		87.3	62 - 108			
beta-BHC	12.2012	1.0	0.06	16.6667		73.2	59 - 106			
beta-BHC [2C]	12.8952	1.0	0.06	16.6667		77.4	59 - 106			
delta-BHC	13.1498	1.0	0.12	16.6667		78.9	63 - 115			
delta-BHC [2C]	15.0270	1.0	0.12	16.6667		90.2	63 - 115			
Dieldrin	12.1672	2.0	0.26	16.6667		73.0	59 - 102			
Dieldrin [2C]	12.8095	2.0	0.26	16.6667		76.9	59 - 102			
Endosulfan I	12.5898	1.0	0.10	16.6667		75.5	61 - 99			
Endosulfan I [2C]	14.0097	1.0	0.10	16.6667		84.1	61 - 99			
Endosulfan II	13.3318	2.0	0.15	16.6667		80.0	65 - 105			
Endosulfan II [2C]	14.5933	2.0	0.15	16.6667		87.6	65 - 105			
Endosulfan sulfate	11.6230	2.0	0.16	16.6667		69.7	59 - 107			
Endosulfan Sulfate [2C]	13.4233	2.0	0.16	16.6667		80.5	59 - 107			
Endrin	12.9813	2.0	0.14	16.6667		77.9	65 - 113			
Endrin [2C]	14.7835	2.0	0.14	16.6667		88.7	65 - 113			
Endrin aldehyde	12.2873	2.0	0.31	16.6667		73.7	61 - 109			
Endrin aldehyde [2C]	14.2153	2.0	0.31	16.6667		85.3	61 - 109			
Endrin ketone	10.8132	2.0	0.13	16.6667		64.9	56 - 97			
Endrin ketone [2C]	12.1038	2.0	0.13	16.6667		72.6	56 - 97			
gamma-BHC	13.0912	1.0	0.10	16.6667		78.5	57 - 101			
gamma-BHC [2C]	13.6993	1.0	0.10	16.6667		82.2	57 - 101			

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Organochlorine Pesticides by EPA 8081 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S (continued)										
LCS (B9C0705-BS1) - Continued					Prepared: 3/23/2019 Analyzed: 3/25/2019					
gamma-Chlordane	12.8498	1.0	0.89	16.6667		77.1	56 - 125			
gamma-Chlordane [2C]	14.3415	1.0	0.89	16.6667		86.0	56 - 125			
Heptachlor	13.6673	1.0	0.12	16.6667		82.0	61 - 105			
Heptachlor [2C]	14.3893	1.0	0.12	16.6667		86.3	61 - 105			
Heptachlor epoxide	12.3227	1.0	0.09	16.6667		73.9	59 - 97			
Heptachlor epoxide [2C]	13.7155	1.0	0.09	16.6667		82.3	59 - 97			
Methoxychlor	11.5685	5.0	0.18	16.6667		69.4	68 - 118			
Methoxychlor [2C]	13.3130	5.0	0.18	16.6667		79.9	68 - 118			
Surrogate: Decachlorobiphenyl	*12.53*			*16.6667*		*75.2*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*12.12*			*16.6667*		*72.7*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*11.41*			*16.6667*		*68.4*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*12.37*			*16.6667*		*74.2*	*38 - 93*			
Duplicate (B9C0705-DUP1)			**Source: 1901055-01**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
4,4´-DDD	ND	2.0	0.07		ND				20	
4,4´-DDD [2C]	ND	2.0	0.07		ND				20	
4,4´-DDE	ND	2.0	0.11		ND				20	
4,4´-DDE [2C]	ND	2.0	0.11		ND				20	
4,4´-DDT	ND	2.0	0.10		ND				20	
4,4´-DDT [2C]	ND	2.0	0.10		ND				20	
Aldrin	ND	1.0	0.12		ND				20	
Aldrin [2C]	ND	1.0	0.12		ND				20	
alpha-BHC	ND	1.0	0.11		ND				20	
alpha-BHC [2C]	ND	1.0	0.11		ND				20	
alpha-Chlordane	ND	1.0	0.12		ND				20	
alpha-Chlordane [2C]	ND	1.0	0.12		ND				20	
beta-BHC	ND	1.0	0.06		ND				20	
beta-BHC [2C]	ND	1.0	0.06		ND				20	
delta-BHC	ND	1.0	0.12		ND				20	
delta-BHC [2C]	ND	1.0	0.12		ND				20	
Dieldrin	ND	2.0	0.26		ND				20	
Dieldrin [2C]	ND	2.0	0.26		ND				20	
Endosulfan I	ND	1.0	0.10		ND				20	
Endosulfan I [2C]	ND	1.0	0.10		ND				20	
Endosulfan II	ND	2.0	0.15		ND				20	
Endosulfan II [2C]	ND	2.0	0.15		ND				20	
Endosulfan sulfate	ND	2.0	0.16		ND				20	
Endosulfan Sulfate [2C]	ND	2.0	0.16		ND				20	
Endrin	ND	2.0	0.14		ND				20	
Endrin [2C]	ND	2.0	0.14		ND				20	
Endrin aldehyde	ND	2.0	0.31		ND				20	

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Organochlorine Pesticides by EPA 8081 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S (continued)										
Duplicate (B9C0705-DUP1) - Continued			**Source: 1901055-01**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
Endrin aldehyde [2C]	ND	2.0	0.31		ND				20	
Endrin ketone	ND	2.0	0.13		ND				20	
Endrin ketone [2C]	ND	2.0	0.13		ND				20	
gamma-BHC	ND	1.0	0.10		ND				20	
gamma-BHC [2C]	ND	1.0	0.10		ND				20	
gamma-Chlordane	ND	1.0	0.89		ND				20	
gamma-Chlordane [2C]	ND	1.0	0.89		ND				20	
Heptachlor	ND	1.0	0.12		ND				20	
Heptachlor [2C]	ND	1.0	0.12		ND				20	
Heptachlor epoxide	ND	1.0	0.09		ND				20	
Heptachlor epoxide [2C]	ND	1.0	0.09		ND				20	
Methoxychlor	ND	5.0	0.18		ND				20	
Methoxychlor [2C]	ND	5.0	0.18		ND				20	
Surrogate: Decachlorobiphenyl	*12.11*			*16.6667*		*72.7*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*11.89*			*16.6667*		*71.4*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*14.45*			*16.6667*		*86.7*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*10.88*			*16.6667*		*65.3*	*38 - 93*			
Matrix Spike (B9C0705-MS1)			**Source: 1901062-12**		Prepared: 3/23/2019 Analyzed: 3/26/2019					
4,4'-DDD	247.617	100	3.5	16.6667	306.500	-353	33 - 116			M2
4,4'-DDD [2C]	310.308	100	3.5	16.6667	384.883	-447	33 - 116			M2
4,4'-DDE	2412.30	100	5.4	16.6667	3229.52	-4900	29 - 128			M2
4,4'-DDE [2C]	3260.68	100	5.4	16.6667	3286.67	-156	29 - 128			M2
4,4'-DDT	180.050	100	5.0	16.6667	211.633	-189	27 - 109			M2
4,4'-DDT [2C]	255.958	100	5.0	16.6667	288.508	-195	27 - 109			M2
Aldrin	17.3333	50	6.2	16.6667	ND	104	34 - 110			
Aldrin [2C]	28.6417	50	6.2	16.6667	ND	172	34 - 110			M2
alpha-BHC	9.49167	50	5.3	16.6667	ND	56.9	39 - 107			
alpha-BHC [2C]	16.8417	50	5.3	16.6667	ND	101	39 - 107			
alpha-Chlordane	44.3250	50	5.9	16.6667	ND	266	37 - 111			M2
alpha-Chlordane [2C]	60.7917	50	5.9	16.6667	ND	365	37 - 111			M2
beta-BHC	18.4417	50	3.0	16.6667	ND	111	33 - 111			
beta-BHC [2C]	18.0583	50	3.0	16.6667	ND	108	33 - 111			
delta-BHC	15.5583	50	6.2	16.6667	ND	93.3	25 - 122			
delta-BHC [2C]	16.7917	50	6.2	16.6667	ND	101	25 - 122			
Dieldrin	39.7417	100	13	16.6667	ND	238	28 - 114			M2
Dieldrin [2C]	96.5333	100	13	16.6667	ND	579	28 - 114			M2
Endosulfan I	ND	50	5.0	16.6667	ND	NR	35 - 107			M2
Endosulfan I [2C]	ND	50	5.0	16.6667	ND	NR	35 - 107			M2
Endosulfan II	85.9083	100	7.7	16.6667	ND	515	13 - 122			M2
Endosulfan II [2C]	99.8250	100	7.7	16.6667	ND	599	13 - 122			M2

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Organochlorine Pesticides by EPA 8081 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike (B9C0705-MS1) - Continued			**Source: 1901062-12**		Prepared: 3/23/2019 Analyzed: 3/26/2019					
Endosulfan sulfate	13.1500	100	8.0	16.6667	ND	78.9	13 - 120			
Endosulfan Sulfate [2C]	18.2750	100	8.0	16.6667	ND	110	13 - 120			
Endrin	ND	100	6.8	16.6667	ND	NR	31 - 121			M2
Endrin [2C]	ND	100	6.8	16.6667	ND	NR	31 - 121			M2
Endrin aldehyde	135.125	100	16	16.6667	ND	811	18 - 129			M2
Endrin aldehyde [2C]	104.275	100	16	16.6667	ND	626	18 - 129			M2
Endrin ketone	11.5333	100	6.3	16.6667	ND	69.2	14 - 113			
Endrin ketone [2C]	25.9750	100	6.3	16.6667	ND	156	14 - 113			M2
gamma-BHC	26.7417	50	5.2	16.6667	ND	160	34 - 104			M2
gamma-BHC [2C]	15.3667	50	5.2	16.6667	ND	92.2	34 - 104			
gamma-Chlordane	108.400	50	44	16.6667	ND	650	35 - 121			M2
gamma-Chlordane [2C]	ND	50	44	16.6667	ND	NR	35 - 121			M2
Heptachlor	11.9583	50	5.9	16.6667	ND	71.7	35 - 110			
Heptachlor [2C]	18.4167	50	5.9	16.6667	ND	110	35 - 110			M2
Heptachlor epoxide	25.9417	50	4.4	16.6667	ND	156	31 - 106			M2
Heptachlor epoxide [2C]	57.3583	50	4.4	16.6667	ND	344	31 - 106			M2
Methoxychlor	ND	250	8.9	16.6667	ND	NR	21 - 128			M2
Methoxychlor [2C]	ND	250	8.9	16.6667	ND	NR	21 - 128			M2
Surrogate: Decachlorobiphenyl	*0.000*			*16.6667*		*NR*	*32 - 91*			S4
Surrogate: Decachlorobiphenyl [	*0.000*			*16.6667*		*NR*	*32 - 91*			S4
Surrogate: Tetrachloro-m-xylene	*0.000*			*16.6667*		*NR*	*38 - 93*			S4
Surrogate: Tetrachloro-m-xylene	*0.000*			*16.6667*		*NR*	*38 - 93*			S4
Matrix Spike Dup (B9C0705-MSD1)			**Source: 1901062-12**		Prepared: 3/23/2019 Analyzed: 3/26/2019					
4,4'-DDD	269.225	100	3.5	16.6667	306.500	-224	33 - 116	8.36	20	M2
4,4'-DDD [2C]	345.575	100	3.5	16.6667	384.883	-236	33 - 116	10.8	20	M2
4,4'-DDE	2806.86	100	5.4	16.6667	3229.52	-2540	29 - 128	15.1	20	M2
4,4'-DDE [2C]	3679.52	100	5.4	16.6667	3286.67	2360	29 - 128	12.1	20	M2
4,4'-DDT	269.467	100	5.0	16.6667	211.633	347	27 - 109	39.8	20	M2, R3
4,4'-DDT [2C]	360.942	100	5.0	16.6667	288.508	435	27 - 109	34.0	20	M2, R3
Aldrin	18.7833	50	6.2	16.6667	ND	113	34 - 110	8.03	20	M2
Aldrin [2C]	35.6917	50	6.2	16.6667	ND	214	34 - 110	21.9	20	M2
alpha-BHC	10.2500	50	5.3	16.6667	ND	61.5	39 - 107	7.68	20	
alpha-BHC [2C]	23.5583	50	5.3	16.6667	ND	141	39 - 107	33.3	20	M2
alpha-Chlordane	50.4833	50	5.9	16.6667	ND	303	37 - 111	13.0	20	M2
alpha-Chlordane [2C]	73.4583	50	5.9	16.6667	ND	441	37 - 111	18.9	20	M2
beta-BHC	25.8333	50	3.0	16.6667	ND	155	33 - 111	33.4	20	M2
beta-BHC [2C]	46.7167	50	3.0	16.6667	ND	280	33 - 111	88.5	20	M2
delta-BHC	17.0833	50	6.2	16.6667	ND	102	25 - 122	9.34	20	
delta-BHC [2C]	27.8167	50	6.2	16.6667	ND	167	25 - 122	49.4	20	M2
Dieldrin	47.1417	100	13	16.6667	ND	283	28 - 114	17.0	20	M2

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Organochlorine Pesticides by EPA 8081 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike Dup (B9C0705-MSD1) - Continued			**Source: 1901062-12**		Prepared: 3/23/2019 Analyzed: 3/26/2019					
Dieldrin [2C]	111.658	100	13	16.6667	ND	670	28 - 114	14.5	20	M2
Endosulfan I	ND	50	5.0	16.6667	ND	NR	35 - 107		20	M2
Endosulfan I [2C]	ND	50	5.0	16.6667	ND	NR	35 - 107		20	M2
Endosulfan II	105.617	100	7.7	16.6667	ND	634	13 - 122	20.6	20	M2, R3
Endosulfan II [2C]	127.417	100	7.7	16.6667	ND	765	13 - 122	24.3	20	M2, R3
Endosulfan sulfate	17.3000	100	8.0	16.6667	ND	104	13 - 120	27.3	20	R3
Endosulfan Sulfate [2C]	25.8250	100	8.0	16.6667	ND	155	13 - 120	34.2	20	M2, R3
Endrin	ND	100	6.8	16.6667	ND	NR	31 - 121		20	M2
Endrin [2C]	ND	100	6.8	16.6667	ND	NR	31 - 121		20	M2
Endrin aldehyde	186.717	100	16	16.6667	ND	1120	18 - 129	32.1	20	M2, R3
Endrin aldehyde [2C]	143.775	100	16	16.6667	ND	863	18 - 129	31.8	20	M2, R3
Endrin ketone	15.2500	100	6.3	16.6667	ND	91.5	14 - 113	27.8	20	R3
Endrin ketone [2C]	36.6167	100	6.3	16.6667	ND	220	14 - 113	34.0	20	M2, R3
gamma-BHC	28.1250	50	5.2	16.6667	ND	169	34 - 104	5.04	20	M2
gamma-BHC [2C]	21.3917	50	5.2	16.6667	ND	128	34 - 104	32.8	20	M2, R3
gamma-Chlordane	124.200	50	44	16.6667	ND	745	35 - 121	13.6	20	M2
gamma-Chlordane [2C]	ND	50	44	16.6667	ND	NR	35 - 121	NR	20	M2
Heptachlor	13.6583	50	5.9	16.6667	ND	81.9	35 - 110	13.3	20	
Heptachlor [2C]	23.8583	50	5.9	16.6667	ND	143	35 - 110	25.7	20	M2, R3
Heptachlor epoxide	29.8083	50	4.4	16.6667	ND	179	31 - 106	13.9	20	M2
Heptachlor epoxide [2C]	131.333	50	4.4	16.6667	ND	788	31 - 106	78.4	20	M2, R3
Methoxychlor	ND	250	8.9	16.6667	ND	NR	21 - 128		20	M2
Methoxychlor [2C]	ND	250	8.9	16.6667	ND	NR	21 - 128		20	M2
Surrogate: Decachlorobiphenyl	*0.000*			*16.6667*		*NR*	*32 - 91*			S4
Surrogate: Decachlorobiphenyl [	*0.000*			*16.6667*		*NR*	*32 - 91*			S4
Surrogate: Tetrachloro-m-xylene	*0.000*			*16.6667*		*NR*	*38 - 93*			S4
Surrogate: Tetrachloro-m-xylene	*0.000*			*16.6667*		*NR*	*38 - 93*			S4

Certificate of Analysis

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Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0705 - GCSEMI_PCB/PEST_S										
Blank (B9C0705-BLK2)					Prepared: 3/23/2019 Analyzed: 3/25/2019					
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*11.15*			*16.6667*		*66.9*	*38 - 117*			
Surrogate: Tetrachloro-m-xylene	*12.78*			*16.6667*		*76.7*	*39 - 121*			
LCS (B9C0705-BS2)					Prepared: 3/23/2019 Analyzed: 3/25/2019					
Aroclor 1016	158.654	16	4.6	166.667		95.2	59 - 96			
Aroclor 1260	169.494	16	4.6	166.667		102	64 - 108			
Surrogate: Decachlorobiphenyl	*15.78*			*16.6667*		*94.7*	*38 - 117*			
Surrogate: Tetrachloro-m-xylene	*17.00*			*16.6667*		*102*	*39 - 121*			
Matrix Spike (B9C0705-MS2)			**Source: 1900986-01**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
Aroclor 1016	94.4000	16	4.6	166.667	ND	56.6	22 - 130			
Aroclor 1260	81.3647	16	4.6	166.667	ND	48.8	39 - 121			
Surrogate: Decachlorobiphenyl	*6.484*			*16.6667*		*38.9*	*38 - 117*			
Surrogate: Tetrachloro-m-xylene	*9.328*			*16.6667*		*56.0*	*39 - 121*			
Matrix Spike Dup (B9C0705-MSD2)			**Source: 1900986-01**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
Aroclor 1016	84.5253	16	4.6	166.667	ND	50.7	22 - 130	11.0	20	
Aroclor 1260	73.7340	16	4.6	166.667	ND	44.2	39 - 121	9.84	20	
Surrogate: Decachlorobiphenyl	*6.397*			*16.6667*		*38.4*	*38 - 117*			
Surrogate: Tetrachloro-m-xylene	*9.027*			*16.6667*		*54.2*	*39 - 121*			

Certificate of Analysis

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S										
Blank (B9C0392-BLK1)					Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
Blank (B9C0392-BLK1) - Continued					Prepared: 3/15/2019 Analyzed: 3/15/2019					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*44.53*			*50.0000*		*89.1*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*47.11*			*50.0000*		*94.2*	*68 - 121*			
Surrogate: Dibromofluoromethan	*48.58*			*50.0000*		*97.2*	*65 - 137*			
Surrogate: Toluene-d8	*52.67*			*50.0000*		*105*	*82 - 119*			
LCS (B9C0392-BS1)					Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,1,1,2-Tetrachloroethane	46.8000	5.0	0.96	50.0000		93.6	82 - 114			
1,1,1-Trichloroethane	44.0700	5.0	1.1	50.0000		88.1	70 - 121			
1,1,2,2-Tetrachloroethane	42.3200	5.0	0.62	50.0000		84.6	65 - 116			
1,1,2-Trichloroethane	41.1500	5.0	1.6	50.0000		82.3	73 - 114			
1,1-Dichloroethane	41.4900	5.0	0.81	50.0000		83.0	69 - 117			
1,1-Dichloroethene	45.6900	5.0	2.6	50.0000		91.4	57 - 128			
1,1-Dichloropropene	53.6900	5.0	2.3	50.0000		107	76 - 122			

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
LCS (B9C0392-BS1) - Continued					Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,2,3-Trichloropropane	43.3400	5.0	0.54	50.0000		86.7	65 - 116			
1,2,3-Trichlorobenzene	50.4900	5.0	1.2	50.0000		101	72 - 130			
1,2,4-Trichlorobenzene	54.3900	5.0	1.1	50.0000		109	74 - 141			
1,2,4-Trimethylbenzene	48.0300	5.0	1.5	50.0000		96.1	81 - 126			
1,2-Dibromo-3-chloropropane	38.6600	10	1.6	50.0000		77.3	63 - 126			
1,2-Dibromoethane	42.9600	5.0	3.2	50.0000		85.9	75 - 113			
1,2-Dichlorobenzene	49.7600	5.0	1.1	50.0000		99.5	83 - 114			
1,2-Dichloroethane	43.0500	5.0	1.2	50.0000		86.1	73 - 115			
1,2-Dichloropropane	42.4000	5.0	1.8	50.0000		84.8	75 - 117			
1,3,5-Trimethylbenzene	48.6300	5.0	1.7	50.0000		97.3	80 - 126			
1,3-Dichlorobenzene	51.2000	5.0	1.3	50.0000		102	83 - 113			
1,3-Dichloropropane	43.2200	5.0	1.1	50.0000		86.4	79 - 108			
1,4-Dichlorobenzene	50.3800	5.0	1.2	50.0000		101	82 - 114			
2,2-Dichloropropane	45.1400	5.0	1.2	50.0000		90.3	66 - 135			
2-Chlorotoluene	46.2200	5.0	1.6	50.0000		92.4	79 - 117			
4-Chlorotoluene	45.1100	5.0	1.5	50.0000		90.2	77 - 118			
4-Isopropyltoluene	51.3300	5.0	2.3	50.0000		103	81 - 129			
Benzene	91.2200	5.0	0.64	100.000		91.2	78 - 112			
Bromobenzene	46.9800	5.0	1.1	50.0000		94.0	79 - 111			
Bromochloromethane	41.0900	5.0	0.64	50.0000		82.2	69 - 116			
Bromodichloromethane	42.7200	5.0	1.2	50.0000		85.4	79 - 111			
Bromoform	46.2700	5.0	0.80	50.0000		92.5	75 - 119			
Bromomethane	44.8700	5.0	2.5	50.0000		89.7	31 - 168			
Carbon disulfide	48.7500	5.0	3.5	50.0000		97.5	54 - 141			
Carbon tetrachloride	50.1300	5.0	1.2	50.0000		100	74 - 125			
Chlorobenzene	48.1000	5.0	1.0	50.0000		96.2	83 - 112			
Chloroethane	48.2400	5.0	1.1	50.0000		96.5	53 - 144			
Chloroform	41.3100	5.0	0.82	50.0000		82.6	69 - 118			
Chloromethane	45.7600	5.0	1.4	50.0000		91.5	46 - 137			
cis-1,2-Dichloroethene	41.9900	5.0	0.67	50.0000		84.0	68 - 118			
cis-1,3-Dichloropropene	49.4600	5.0	1.9	50.0000		98.9	77 - 121			
Di-isopropyl ether	38.4500	5.0	0.55	50.0000		76.9	60 - 129			
Dibromochloromethane	44.8300	5.0	1.0	50.0000		89.7	80 - 111			
Dibromomethane	42.1600	5.0	1.6	50.0000		84.3	78 - 108			
Dichlorodifluoromethane	49.0100	5.0	2.2	50.0000		98.0	41 - 146			
Ethyl Acetate	347.040	50	8.1	500.000		69.4	52 - 130			
Ethyl Ether	406.460	50	6.1	500.000		81.3	54 - 138			
Ethyl tert-butyl ether	39.7800	5.0	0.67	50.0000		79.6	52 - 141			
Ethylbenzene	94.1800	5.0	0.91	100.000		94.2	82 - 121			
Freon-113	45.9800	5.0	2.8	50.0000		92.0	59 - 139			
Hexachlorobutadiene	49.3400	5.0	2.5	50.0000		98.7	69 - 143			
Isopropylbenzene	53.5600	5.0	1.8	50.0000		107	78 - 124			

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
LCS (B9C0392-BS1) - Continued					Prepared: 3/15/2019 Analyzed: 3/15/2019					
m,p-Xylene	97.7100	10	1.5	100.000		97.7	85 - 118			
Methylene chloride	31.6500	5.0	2.3	50.0000		63.3	44 - 146			
MTBE	37.3800	5.0	0.63	50.0000		74.8	61 - 122			
n-Butylbenzene	49.8200	5.0	2.4	50.0000		99.6	78 - 135			
n-Propylbenzene	48.0700	5.0	2.2	50.0000		96.1	78 - 127			
Naphthalene	43.2900	5.0	0.97	50.0000		86.6	68 - 129			
o-Xylene	96.0800	5.0	0.87	100.000		96.1	86 - 118			
sec-Butylbenzene	49.8200	5.0	2.3	50.0000		99.6	80 - 127			
Styrene	47.5500	5.0	1.5	50.0000		95.1	85 - 117			
tert-Amyl methyl ether	38.2000	5.0	0.59	50.0000		76.4	48 - 135			
tert-Butanol	90.1300	100	19	250.000		36.1	0 - 175			
tert-Butylbenzene	50.6100	5.0	2.0	50.0000		101	81 - 122			
Tetrachloroethene	56.5600	5.0	1.6	50.0000		113	77 - 122			
Toluene	95.1300	5.0	0.94	100.000		95.1	79 - 114			
trans-1,2-Dichloroethene	36.5900	5.0	0.59	50.0000		73.2	66 - 125			
trans-1,3-Dichloropropene	42.4700	5.0	2.1	50.0000		84.9	76 - 120			
Trichloroethene	51.3600	5.0	3.1	50.0000		103	79 - 117			
Trichlorofluoromethane	45.8600	5.0	1.4	50.0000		91.7	55 - 133			
Vinyl acetate	342.830	50	9.8	500.000		68.6	52 - 141			
Vinyl chloride	48.2400	5.0	1.7	50.0000		96.5	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*43.11*			*50.0000*		*86.2*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.38*			*50.0000*		*98.8*	*68 - 121*			
Surrogate: Dibromofluoromethan	*46.85*			*50.0000*		*93.7*	*65 - 137*			
Surrogate: Toluene-d8	*52.39*			*50.0000*		*105*	*82 - 119*			
LCS Dup (B9C0392-BSD1)					Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,1,1,2-Tetrachloroethane	45.9400	5.0	0.96	50.0000		91.9	82 - 114	1.85	20	
1,1,1-Trichloroethane	41.2900	5.0	1.1	50.0000		82.6	70 - 121	6.51	20	
1,1,2,2-Tetrachloroethane	40.5800	5.0	0.62	50.0000		81.2	65 - 116	4.20	20	
1,1,2-Trichloroethane	40.7400	5.0	1.6	50.0000		81.5	73 - 114	1.00	20	
1,1-Dichloroethane	39.7800	5.0	0.81	50.0000		79.6	69 - 117	4.21	20	
1,1-Dichloroethene	41.1400	5.0	2.6	50.0000		82.3	57 - 128	10.5	20	
1,1-Dichloropropene	49.6400	5.0	2.3	50.0000		99.3	76 - 122	7.84	20	
1,2,3-Trichloropropane	41.6700	5.0	0.54	50.0000		83.3	65 - 116	3.93	20	
1,2,3-Trichlorobenzene	51.0800	5.0	1.2	50.0000		102	72 - 130	1.16	20	
1,2,4-Trichlorobenzene	54.4500	5.0	1.1	50.0000		109	74 - 141	0.110	20	
1,2,4-Trimethylbenzene	45.6300	5.0	1.5	50.0000		91.3	81 - 126	5.12	20	
1,2-Dibromo-3-chloropropane	36.5100	10	1.6	50.0000		73.0	63 - 126	5.72	20	
1,2-Dibromoethane	42.2800	5.0	3.2	50.0000		84.6	75 - 113	1.60	20	
1,2-Dichlorobenzene	48.2400	5.0	1.1	50.0000		96.5	83 - 114	3.10	20	
1,2-Dichloroethane	42.1000	5.0	1.2	50.0000		84.2	73 - 115	2.23	20	

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
LCS Dup (B9C0392-BSD1) - Continued					Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,2-Dichloropropane	40.9200	5.0	1.8	50.0000		81.8	75 - 117	3.55	20	
1,3,5-Trimethylbenzene	46.0600	5.0	1.7	50.0000		92.1	80 - 126	5.43	20	
1,3-Dichlorobenzene	49.3100	5.0	1.3	50.0000		98.6	83 - 113	3.76	20	
1,3-Dichloropropane	42.2800	5.0	1.1	50.0000		84.6	79 - 108	2.20	20	
1,4-Dichlorobenzene	49.0700	5.0	1.2	50.0000		98.1	82 - 114	2.63	20	
2,2-Dichloropropane	41.7400	5.0	1.2	50.0000		83.5	66 - 135	7.83	20	
2-Chlorotoluene	44.0500	5.0	1.6	50.0000		88.1	79 - 117	4.81	20	
4-Chlorotoluene	43.8900	5.0	1.5	50.0000		87.8	77 - 118	2.74	20	
4-Isopropyltoluene	48.0300	5.0	2.3	50.0000		96.1	81 - 129	6.64	20	
Benzene	87.0800	5.0	0.64	100.000		87.1	78 - 112	4.64	20	
Bromobenzene	45.4700	5.0	1.1	50.0000		90.9	79 - 111	3.27	20	
Bromochloromethane	39.5500	5.0	0.64	50.0000		79.1	69 - 116	3.82	20	
Bromodichloromethane	41.4800	5.0	1.2	50.0000		83.0	79 - 111	2.95	20	
Bromoform	45.4800	5.0	0.80	50.0000		91.0	75 - 119	1.72	20	
Bromomethane	39.5600	5.0	2.5	50.0000		79.1	31 - 168	12.6	20	
Carbon disulfide	42.4300	5.0	3.5	50.0000		84.9	54 - 141	13.9	20	
Carbon tetrachloride	46.1600	5.0	1.2	50.0000		92.3	74 - 125	8.25	20	
Chlorobenzene	46.5500	5.0	1.0	50.0000		93.1	83 - 112	3.28	20	
Chloroethane	44.4600	5.0	1.1	50.0000		88.9	53 - 144	8.16	20	
Chloroform	39.0900	5.0	0.82	50.0000		78.2	69 - 118	5.52	20	
Chloromethane	39.8700	5.0	1.4	50.0000		79.7	46 - 137	13.8	20	
cis-1,2-Dichloroethene	41.6200	5.0	0.67	50.0000		83.2	68 - 118	0.885	20	
cis-1,3-Dichloropropene	49.1800	5.0	1.9	50.0000		98.4	77 - 121	0.568	20	
Di-isopropyl ether	37.5100	5.0	0.55	50.0000		75.0	60 - 129	2.47	20	
Dibromochloromethane	43.8900	5.0	1.0	50.0000		87.8	80 - 111	2.12	20	
Dibromomethane	41.9800	5.0	1.6	50.0000		84.0	78 - 108	0.428	20	
Dichlorodifluoromethane	45.3600	5.0	2.2	50.0000		90.7	41 - 146	7.74	20	
Ethyl Acetate	336.350	50	8.1	500.000		67.3	52 - 130	3.13	20	
Ethyl Ether	378.670	50	6.1	500.000		75.7	54 - 138	7.08	20	
Ethyl tert-butyl ether	40.1000	5.0	0.67	50.0000		80.2	52 - 141	0.801	20	
Ethylbenzene	90.6900	5.0	0.91	100.000		90.7	82 - 121	3.78	20	
Freon-113	41.4100	5.0	2.8	50.0000		82.8	59 - 139	10.5	20	
Hexachlorobutadiene	48.9600	5.0	2.5	50.0000		97.9	69 - 143	0.773	20	
Isopropylbenzene	49.7800	5.0	1.8	50.0000		99.6	78 - 124	7.32	20	
m,p-Xylene	94.5300	10	1.5	100.000		94.5	85 - 118	3.31	20	
Methylene chloride	38.0700	5.0	2.3	50.0000		76.1	44 - 146	18.4	20	
MTBE	37.7900	5.0	0.63	50.0000		75.6	61 - 122	1.09	20	
n-Butylbenzene	46.9000	5.0	2.4	50.0000		93.8	78 - 135	6.04	20	
n-Propylbenzene	44.8700	5.0	2.2	50.0000		89.7	78 - 127	6.89	20	
Naphthalene	43.8400	5.0	0.97	50.0000		87.7	68 - 129	1.26	20	
o-Xylene	93.5600	5.0	0.87	100.000		93.6	86 - 118	2.66	20	
sec-Butylbenzene	46.3400	5.0	2.3	50.0000		92.7	80 - 127	7.24	20	

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
LCS Dup (B9C0392-BSD1) - Continued					Prepared: 3/15/2019 Analyzed: 3/15/2019					
Styrene	46.0500	5.0	1.5	50.0000		92.1	85 - 117	3.21	20	
tert-Amyl methyl ether	39.0300	5.0	0.59	50.0000		78.1	48 - 135	2.15	20	
tert-Butanol	74.3700	100	19	250.000		29.7	0 - 175	19.2	20	
tert-Butylbenzene	47.4700	5.0	2.0	50.0000		94.9	81 - 122	6.40	20	
Tetrachloroethene	52.4400	5.0	1.6	50.0000		105	77 - 122	7.56	20	
Toluene	90.8300	5.0	0.94	100.000		90.8	79 - 114	4.62	20	
trans-1,2-Dichloroethene	40.2200	5.0	0.59	50.0000		80.4	66 - 125	9.45	20	
trans-1,3-Dichloropropene	41.5900	5.0	2.1	50.0000		83.2	76 - 120	2.09	20	
Trichloroethene	49.1300	5.0	3.1	50.0000		98.3	79 - 117	4.44	20	
Trichlorofluoromethane	41.9500	5.0	1.4	50.0000		83.9	55 - 133	8.91	20	
Vinyl acetate	335.800	50	9.8	500.000		67.2	52 - 141	2.07	20	
Vinyl chloride	41.6400	5.0	1.7	50.0000		83.3	58 - 132	14.7	20	
Surrogate: 1,2-Dichloroethane-d4	*42.84*			*50.0000*		*85.7*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.48*			*50.0000*		*99.0*	*68 - 121*			
Surrogate: Dibromofluoromethan	*45.97*			*50.0000*		*91.9*	*65 - 137*			
Surrogate: Toluene-d8	*51.69*			*50.0000*		*103*	*82 - 119*			
Matrix Spike (B9C0392-MS1)			**Source: 1900986-03**		Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,1,1,2-Tetrachloroethane	ND	3.0	0.58	30.1205	ND	NR	45 - 121			M2
1,1,1-Trichloroethane	ND	3.0	0.64	30.1205	ND	NR	43 - 127			M2
1,1,2,2-Tetrachloroethane	ND	3.0	0.37	30.1205	ND	NR	32 - 128			M2
1,1,2-Trichloroethane	ND	3.0	0.98	30.1205	ND	NR	45 - 121			M2
1,1-Dichloroethane	0.789157	3.0	0.49	30.1205	ND	2.62	46 - 119			M2
1,1-Dichloroethene	ND	3.0	1.5	30.1205	ND	NR	40 - 130			M2
1,1-Dichloropropene	ND	3.0	1.4	30.1205	ND	NR	45 - 130			M2
1,2,3-Trichloropropane	ND	3.0	0.33	30.1205	ND	NR	42 - 124			M2
1,2,3-Trichlorobenzene	ND	3.0	0.73	30.1205	ND	NR	4 - 135			M2
1,2,4-Trichlorobenzene	ND	3.0	0.68	30.1205	ND	NR	8 - 141			M2
1,2,4-Trimethylbenzene	ND	3.0	0.93	30.1205	ND	NR	30 - 136			M2
1,2-Dibromo-3-chloropropane	ND	6.0	0.94	30.1205	ND	NR	38 - 132			M2
1,2-Dibromoethane	ND	3.0	1.9	30.1205	ND	NR	45 - 121			M2
1,2-Dichlorobenzene	ND	3.0	0.65	30.1205	ND	NR	30 - 125			M2
1,2-Dichloroethane	0.867470	3.0	0.72	30.1205	ND	2.88	51 - 115			M2
1,2-Dichloropropane	ND	3.0	1.1	30.1205	ND	NR	50 - 118			M2
1,3,5-Trimethylbenzene	ND	3.0	1.0	30.1205	ND	NR	29 - 137			M2
1,3-Dichlorobenzene	ND	3.0	0.78	30.1205	ND	NR	30 - 124			M2
1,3-Dichloropropane	ND	3.0	0.68	30.1205	ND	NR	49 - 116			M2
1,4-Dichlorobenzene	ND	3.0	0.71	30.1205	ND	NR	31 - 124			M2
2,2-Dichloropropane	ND	3.0	0.73	30.1205	ND	NR	41 - 134			M2
2-Chlorotoluene	ND	3.0	0.93	30.1205	ND	NR	32 - 127			M2
4-Chlorotoluene	ND	3.0	0.91	30.1205	ND	NR	34 - 124			M2

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
Matrix Spike (B9C0392-MS1) - Continued			**Source: 1900986-03**		Prepared: 3/15/2019 Analyzed: 3/15/2019					
4-Isopropyltoluene	ND	3.0	1.4	30.1205	ND	NR	26 - 141			M2
Benzene	1.45783	3.0	0.39	60.2410	ND	2.42	48 - 117			M2
Bromobenzene	ND	3.0	0.69	30.1205	ND	NR	40 - 117			M2
Bromochloromethane	0.819277	3.0	0.38	30.1205	ND	2.72	48 - 117			M2
Bromodichloromethane	ND	3.0	0.71	30.1205	ND	NR	49 - 115			M2
Bromoform	ND	3.0	0.48	30.1205	ND	NR	42 - 127			M2
Bromomethane	ND	3.0	1.5	30.1205	ND	NR	19 - 157			M2
Carbon disulfide	ND	3.0	2.1	30.1205	ND	NR	34 - 138			M2
Carbon tetrachloride	ND	3.0	0.73	30.1205	ND	NR	43 - 130			M2
Chlorobenzene	ND	3.0	0.60	30.1205	ND	NR	41 - 122			M2
Chloroethane	2.38554	3.0	0.68	30.1205	ND	7.92	32 - 145			M2
Chloroform	0.716868	3.0	0.49	30.1205	ND	2.38	46 - 118			M2
Chloromethane	1.26506	3.0	0.86	30.1205	ND	4.20	34 - 132			M2
cis-1,2-Dichloroethene	0.771084	3.0	0.41	30.1205	ND	2.56	44 - 119			M2
cis-1,3-Dichloropropene	ND	3.0	1.2	30.1205	ND	NR	44 - 126			M2
Di-isopropyl ether	0.487952	3.0	0.33	30.1205	ND	1.62	42 - 126			M2
Dibromochloromethane	ND	3.0	0.60	30.1205	ND	NR	46 - 119			M2
Dibromomethane	ND	3.0	0.98	30.1205	ND	NR	52 - 114			M2
Dichlorodifluoromethane	ND	3.0	1.4	30.1205	ND	NR	22 - 147			M2
Ethyl Acetate	ND	30	4.9	301.205	ND	NR	9 - 140			M2
Ethyl Ether	ND	30	3.7	301.205	ND	NR	45 - 131			M2
Ethyl tert-butyl ether	0.518072	3.0	0.40	30.1205	ND	1.72	33 - 138			M2
Ethylbenzene	0.644578	3.0	0.55	60.2410	ND	1.07	38 - 131			M2
Freon-113	ND	3.0	1.7	30.1205	ND	NR	38 - 140			M2
Hexachlorobutadiene	ND	3.0	1.5	30.1205	ND	NR	4 - 141			M2
Isopropylbenzene	ND	3.0	1.1	30.1205	ND	NR	35 - 133			M2
m,p-Xylene	ND	6.0	0.88	60.2410	ND	NR	38 - 130			M2
Methylene chloride	ND	3.0	1.4	30.1205	ND	NR	26 - 137			M2
MTBE	0.584337	3.0	0.38	30.1205	ND	1.94	45 - 121			M2
n-Butylbenzene	ND	3.0	1.4	30.1205	ND	NR	18 - 144			M2
n-Propylbenzene	ND	3.0	1.3	30.1205	ND	NR	30 - 137			M2
Naphthalene	ND	3.0	0.58	30.1205	ND	NR	14 - 137			M2
o-Xylene	ND	3.0	0.53	60.2410	ND	NR	41 - 129			M2
sec-Butylbenzene	ND	3.0	1.4	30.1205	ND	NR	24 - 140			M2
Styrene	ND	3.0	0.87	30.1205	ND	NR	41 - 125			M2
tert-Amyl methyl ether	0.493976	3.0	0.36	30.1205	ND	1.64	31 - 133			M2
tert-Butanol	ND	60	11	150.602	ND	NR	0 - 201			
tert-Butylbenzene	ND	3.0	1.2	30.1205	ND	NR	30 - 134			M2
Tetrachloroethene	ND	3.0	0.95	30.1205	ND	NR	37 - 130			M2
Toluene	1.05422	3.0	0.57	60.2410	ND	1.75	45 - 122			M2
trans-1,2-Dichloroethene	0.831325	3.0	0.36	30.1205	ND	2.76	46 - 122			M2
trans-1,3-Dichloropropene	ND	3.0	1.3	30.1205	ND	NR	44 - 124			M2

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
Matrix Spike (B9C0392-MS1) - Continued			**Source: 1900986-03**		Prepared: 3/15/2019 Analyzed: 3/15/2019					
Trichloroethene	ND	3.0	1.9	30.1205	ND	NR	36 - 142			M2
Trichlorofluoromethane	ND	3.0	0.85	30.1205	ND	NR	37 - 135			M2
Vinyl acetate	7.43374	30	5.9	301.205	ND	2.47	0 - 136			
Vinyl chloride	1.12048	3.0	1.0	30.1205	ND	3.72	42 - 131			M2
Surrogate: 1,2-Dichloroethane-d4	*55.08*			*50.0000*		*110*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*48.30*			*50.0000*		*96.6*	*68 - 121*			
Surrogate: Dibromofluoromethan	*55.14*			*50.0000*		*110*	*65 - 137*			
Surrogate: Toluene-d8	*54.15*			*50.0000*		*108*	*82 - 119*			
Matrix Spike Dup (B9C0392-MSD1)			**Source: 1900986-03**		Prepared: 3/15/2019 Analyzed: 3/15/2019					
1,1,1,2-Tetrachloroethane	19.3935	3.5	0.68	35.2609	ND	55.0	45 - 121	NR	20	
1,1,1-Trichloroethane	19.8660	3.5	0.75	35.2609	ND	56.3	43 - 127	NR	20	
1,1,2,2-Tetrachloroethane	22.2355	3.5	0.44	35.2609	ND	63.1	32 - 128	NR	20	
1,1,2-Trichloroethane	21.9605	3.5	1.2	35.2609	ND	62.3	45 - 121	NR	20	
1,1-Dichloroethane	19.5769	3.5	0.57	35.2609	ND	55.5	46 - 119	185	20	R
1,1-Dichloroethene	20.4584	3.5	1.8	35.2609	ND	58.0	40 - 130	NR	20	
1,1-Dichloropropene	22.3695	3.5	1.6	35.2609	ND	63.4	45 - 130	NR	20	
1,2,3-Trichloropropane	24.1537	3.5	0.38	35.2609	ND	68.5	42 - 124	NR	20	
1,2,3-Trichlorobenzene	11.5303	3.5	0.85	35.2609	ND	32.7	4 - 135	NR	20	
1,2,4-Trichlorobenzene	12.0592	3.5	0.80	35.2609	ND	34.2	8 - 141	NR	20	
1,2,4-Trimethylbenzene	15.6135	3.5	1.1	35.2609	ND	44.3	30 - 136	NR	20	
1,2-Dibromo-3-chloropropane	22.0451	7.1	1.1	35.2609	ND	62.5	38 - 132	NR	20	
1,2-Dibromoethane	23.9845	3.5	2.2	35.2609	ND	68.0	45 - 121	NR	20	
1,2-Dichlorobenzene	15.4372	3.5	0.76	35.2609	ND	43.8	30 - 125	NR	20	
1,2-Dichloroethane	22.8068	3.5	0.84	35.2609	ND	64.7	51 - 115	NR	20	
1,2-Dichloropropane	19.0832	3.5	1.3	35.2609	ND	54.1	50 - 118	NR	20	
1,3,5-Trimethylbenzene	15.7123	3.5	1.2	35.2609	ND	44.6	29 - 137	NR	20	
1,3-Dichlorobenzene	16.0508	3.5	0.92	35.2609	ND	45.5	30 - 124	NR	20	
1,3-Dichloropropane	21.8759	3.5	0.80	35.2609	ND	62.0	49 - 116	NR	20	
1,4-Dichlorobenzene	15.5712	3.5	0.83	35.2609	ND	44.2	31 - 124	NR	20	
2,2-Dichloropropane	20.5007	3.5	0.86	35.2609	ND	58.1	41 - 134	NR	20	
2-Chlorotoluene	15.6700	3.5	1.1	35.2609	ND	44.4	32 - 127	NR	20	
4-Chlorotoluene	15.4796	3.5	1.1	35.2609	ND	43.9	34 - 124	NR	20	
4-Isopropyltoluene	16.1636	3.5	1.6	35.2609	ND	45.8	26 - 141	NR	20	
Benzene	39.7461	3.5	0.45	70.5219	ND	56.4	48 - 117	186	20	R
Bromobenzene	17.8420	3.5	0.81	35.2609	ND	50.6	40 - 117	NR	20	
Bromochloromethane	22.1509	3.5	0.45	35.2609	ND	62.8	48 - 117	186	20	R
Bromodichloromethane	19.9436	3.5	0.83	35.2609	ND	56.6	49 - 115	NR	20	
Bromoform	23.8928	3.5	0.56	35.2609	ND	67.8	42 - 127	NR	20	
Bromomethane	19.3512	3.5	1.8	35.2609	ND	54.9	19 - 157	NR	20	
Carbon disulfide	23.2934	3.5	2.5	35.2609	ND	66.1	34 - 138	NR	20	

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)										
Matrix Spike Dup (B9C0392-MSD1) - Continued			**Source: 1900986-03**		Prepared: 3/15/2019 Analyzed: 3/15/2019					
Carbon tetrachloride	20.8533	3.5	0.85	35.2609	ND	59.1	43 - 130	NR	20	
Chlorobenzene	18.5190	3.5	0.71	35.2609	ND	52.5	41 - 122	NR	20	
Chloroethane	20.9168	3.5	0.80	35.2609	ND	59.3	32 - 145	159	20	R
Chloroform	19.5628	3.5	0.58	35.2609	ND	55.5	46 - 118	NR	20	
Chloromethane	19.6686	3.5	1.0	35.2609	ND	55.8	34 - 132	NR	20	
cis-1,2-Dichloroethene	20.5360	3.5	0.47	35.2609	ND	58.2	44 - 119	186	20	R
cis-1,3-Dichloropropene	23.0324	3.5	1.4	35.2609	ND	65.3	44 - 126	NR	20	
Di-isopropyl ether	18.3357	3.5	0.39	35.2609	ND	52.0	42 - 126	NR	20	
Dibromochloromethane	21.5444	3.5	0.71	35.2609	ND	61.1	46 - 119	NR	20	
Dibromomethane	23.1171	3.5	1.1	35.2609	ND	65.6	52 - 114	NR	20	
Dichlorodifluoromethane	22.9831	3.5	1.6	35.2609	ND	65.2	22 - 147	NR	20	
Ethyl Acetate	244.450	35	5.7	352.609	ND	69.3	9 - 140	NR	20	
Ethyl Ether	202.518	35	4.3	352.609	ND	57.4	45 - 131	NR	20	
Ethyl tert-butyl ether	19.3159	3.5	0.47	35.2609	ND	54.8	33 - 138	NR	20	
Ethylbenzene	34.9506	3.5	0.64	70.5219	ND	49.6	38 - 131	NR	20	
Freon-113	19.7532	3.5	2.0	35.2609	ND	56.0	38 - 140	NR	20	
Hexachlorobutadiene	14.9859	3.5	1.8	35.2609	ND	42.5	4 - 141	NR	20	
Isopropylbenzene	18.0748	3.5	1.3	35.2609	ND	51.3	35 - 133	NR	20	
m,p-Xylene	34.8731	7.1	1.0	70.5219	ND	49.4	38 - 130	NR	20	
Methylene chloride	19.5204	3.5	1.6	35.2609	ND	55.4	26 - 137	NR	20	
MTBE	21.4457	3.5	0.44	35.2609	ND	60.8	45 - 121	189	20	R
n-Butylbenzene	15.3385	3.5	1.7	35.2609	ND	43.5	18 - 144	NR	20	
n-Propylbenzene	15.7828	3.5	1.5	35.2609	ND	44.8	30 - 137	NR	20	
Naphthalene	12.2638	3.5	0.68	35.2609	ND	34.8	14 - 137	NR	20	
o-Xylene	34.5134	3.5	0.62	70.5219	ND	48.9	41 - 129	NR	20	
sec-Butylbenzene	16.0508	3.5	1.6	35.2609	ND	45.5	24 - 140	NR	20	
Styrene	17.1932	3.5	1.0	35.2609	ND	48.8	41 - 125	NR	20	
tert-Amyl methyl ether	19.6897	3.5	0.42	35.2609	ND	55.8	31 - 133	NR	20	
tert-Butanol	167.362	71	13	176.305	ND	94.9	0 - 201	NR	20	
tert-Butylbenzene	16.5797	3.5	1.4	35.2609	ND	47.0	30 - 134	NR	20	
Tetrachloroethene	20.8392	3.5	1.1	35.2609	ND	59.1	37 - 130	NR	20	
Toluene	39.1396	3.5	0.66	70.5219	ND	55.5	45 - 122	190	20	R
trans-1,2-Dichloroethene	20.1552	3.5	0.42	35.2609	ND	57.2	46 - 122	184	20	R
trans-1,3-Dichloropropene	21.1354	3.5	1.5	35.2609	ND	59.9	44 - 124	NR	20	
Trichloroethene	21.3681	3.5	2.2	35.2609	ND	60.6	36 - 142	NR	20	
Trichlorofluoromethane	20.1340	3.5	0.99	35.2609	ND	57.1	37 - 135	NR	20	
Vinyl acetate	213.808	35	6.9	352.609	ND	60.6	0 - 136	NR	20	
Vinyl chloride	21.0649	3.5	1.2	35.2609	ND	59.7	42 - 131	NR	20	
Surrogate: 1,2-Dichloroethane-d4	*57.42*			*50.0000*		*115*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*50.27*			*50.0000*		*101*	*68 - 121*			
Surrogate: Dibromofluoromethan	*53.96*			*50.0000*		*108*	*65 - 137*			

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0392 - MSVOA_S (continued)									
Matrix Spike Dup (B9C0392-MSD1) - Continued			**Source: 1900986-03**		Prepared: 3/15/2019 Analyzed: 3/15/2019				
Surrogate: Toluene-d8	*51.41*		*50.0000*		*103*	*82 - 119*			

Certificate of Analysis

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Semivolatile Organic Compounds by EPA 8270C - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S										
Blank (B9C0661-BLK1)					Prepared: 3/23/2019 Analyzed: 3/25/2019					
1,2,4-Trichlorobenzene	ND	330	71							
1,2-Dichlorobenzene	ND	330	60							
1,3-Dichlorobenzene	ND	330	65							
1,4-Dichlorobenzene	ND	330	60							
2,4,5-Trichlorophenol	ND	330	61							
2,4,6-Trichlorophenol	ND	330	220							
2,4-Dichlorophenol	ND	1600	120							
2,4-Dimethylphenol	ND	330	120							
2,4-Dinitrophenol	ND	1600	86							
2,4-Dinitrotoluene	ND	330	46							
2,6-Dinitrotoluene	ND	330	49							
2-Chloronaphthalene	ND	330	59							
2-Chlorophenol	ND	330	120							
2-Methylnaphthalene	ND	330	67							
2-Methylphenol	ND	330	67							
2-Nitroaniline	ND	1600	200							
2-Nitrophenol	ND	330	110							
3,3'-Dichlorobenzidine	ND	660	280							
3-Nitroaniline	ND	1600	44							
4,6-Dinitro-2-methyphenol	ND	1600	300							
4-Bromophenyl-phenylether	ND	330	50							
4-Chloro-3-methylphenol	ND	660	110							
4-Chloroaniline	ND	660	53							
4-Chlorophenyl-phenylether	ND	330	48							
4-Methylphenol	ND	330	66							
4-Nitroaniline	ND	1600	290							
4-Nitrophenol	ND	330	150							
Acenaphthene	ND	330	48							
Acenaphthylene	ND	330	51							
Anthracene	ND	330	49							
Benzidine (M)	ND	1600	1400							
Benzo(a)anthracene	ND	330	39							
Benzo(a)pyrene	ND	330	45							
Benzo(b)fluoranthene	ND	330	55							
Benzo(g,h,i)perylene	ND	330	38							
Benzo(k)fluoranthene	ND	330	52							
Benzoic acid	ND	1600	890							
Benzyl alcohol	ND	660	67							
bis(2-chloroethoxy)methane	ND	330	59							
bis(2-Chloroethyl)ether	ND	330	57							
bis(2-chloroisopropyl)ether	ND	330	65							

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Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Blank (B9C0661-BLK1) - Continued					Prepared: 3/23/2019 Analyzed: 3/25/2019					
bis(2-ethylhexyl)phthalate	ND	330	83							
Butylbenzylphthalate	ND	330	250							
Chrysene	ND	330	43							
Di-n-butylphthalate	ND	330	230							
Di-n-octylphthalate	ND	330	48							
Dibenz(a,h)anthracene	ND	330	43							
Dibenzofuran	ND	330	55							
Diethyl phthalate	ND	330	47							
Dimethyl phthalate	ND	330	46							
Fluoranthene	ND	330	47							
Fluorene	ND	330	49							
Hexachlorobenzene	ND	330	41							
Hexachlorobutadiene	ND	660	61							
Hexachlorocyclopentadiene	ND	660	64							
Hexachloroethane	ND	330	71							
Indeno(1,2,3-cd)pyrene	ND	330	44							
Isophorone	ND	330	57							
N-Nitroso-di-n propylamine	ND	330	65							
N-Nitrosodiphenylamine	ND	330	48							
Naphthalene	ND	330	60							
Nitrobenzene	ND	330	67							
Pentachlorophenol	ND	1600	190							
Phenanthrene	ND	330	46							
Phenol	ND	330	130							
Pyrene	ND	330	53							
Pyridine	ND	1600	270							
Surrogate: 1,2-Dichlorobenzene-d	*1674*			*3333.33*		*50.2*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*2966*			*3325.00*		*89.2*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2090*			*3325.00*		*62.9*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2180*			*3333.33*		*65.4*	*16 - 107*			
Surrogate: 2-Fluorophenol	*1817*			*3325.00*		*54.7*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*2667*			*3333.33*		*80.0*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*1614*			*3333.33*		*48.4*	*16 - 99*			
Surrogate: Phenol-d6	*1967*			*3325.00*		*59.2*	*17 - 90*			
LCS (B9C0661-BS1)					Prepared: 3/23/2019 Analyzed: 3/25/2019					
1,2,4-Trichlorobenzene	2680.33	330	71	3333.33		80.4	48 - 92			
1,2-Dichlorobenzene	2725.00	330	60	3333.33		81.8	40 - 86			
1,3-Dichlorobenzene	2474.33	330	65	3333.33		74.2	39 - 82			
1,4-Dichlorobenzene	2422.67	330	60	3333.33		72.7	40 - 82			
2,4,5-Trichlorophenol	2748.33	330	61	3333.33		82.4	70 - 111			

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Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
LCS (B9C0661-BS1) - Continued					Prepared: 3/23/2019 Analyzed: 3/25/2019					
2,4,6-Trichlorophenol	2808.67	330	220	3333.33		84.3	54 - 121			
2,4-Dichlorophenol	2777.33	1600	120	3333.33		83.3	49 - 111			
2,4-Dimethylphenol	2358.00	330	120	3333.33		70.7	43 - 116			
2,4-Dinitrophenol	2942.67	1600	86	3333.33		88.3	48 - 138			
2,4-Dinitrotoluene	2639.67	330	46	3333.33		79.2	62 - 112			
2,6-Dinitrotoluene	2709.67	330	49	3333.33		81.3	59 - 114			
2-Chloronaphthalene	2659.67	330	59	3333.33		79.8	57 - 92			
2-Chlorophenol	2421.33	330	120	3333.33		72.6	43 - 94			
2-Methylnaphthalene	2947.67	330	67	3333.33		88.4	49 - 109			
2-Methylphenol	2507.33	330	67	3333.33		75.2	50 - 95			
2-Nitroaniline	2591.33	1600	200	3333.33		77.7	57 - 120			
2-Nitrophenol	2580.67	330	110	3333.33		77.4	48 - 110			
3,3'-Dichlorobenzidine	2560.33	660	280	3333.33		76.8	38 - 115			
3-Nitroaniline	2606.00	1600	44	3333.33		78.2	62 - 110			
4,6-Dinitro-2-methyphenol	2940.00	1600	300	3333.33		88.2	57 - 136			
4-Bromophenyl-phenylether	2990.33	330	50	3333.33		89.7	64 - 106			
4-Chloro-3-methylphenol	2794.67	660	110	3333.33		83.8	54 - 114			
4-Chloroaniline	2389.33	660	53	3333.33		71.7	60 - 103			
4-Chlorophenyl-phenylether	2886.00	330	48	3333.33		86.6	57 - 106			
4-Methylphenol	2703.67	330	66	3333.33		81.1	53 - 96			
4-Nitroaniline	2833.33	1600	290	3333.33		85.0	69 - 111			
4-Nitrophenol	2642.67	330	150	3333.33		79.3	51 - 141			
Acenaphthene	2735.00	330	48	3333.33		82.1	61 - 105			
Acenaphthylene	2797.33	330	51	3333.33		83.9	62 - 103			
Anthracene	2765.00	330	49	3333.33		83.0	68 - 113			
Benzidine (M)	ND	1600	1400	3333.33		NR	25 - 109			L4
Benzo(a)anthracene	2514.67	330	39	3333.33		75.4	66 - 110			
Benzo(a)pyrene	2754.33	330	45	3333.33		82.6	68 - 118			
Benzo(b)fluoranthene	3075.67	330	55	3333.33		92.3	64 - 117			
Benzo(g,h,i)perylene	2885.00	330	38	3333.33		86.6	68 - 114			
Benzo(k)fluoranthene	2927.00	330	52	3333.33		87.8	62 - 121			
Benzoic acid	1289.33	1600	890	3333.33		38.7	23 - 115			
Benzyl alcohol	2846.33	660	67	3333.33		85.4	47 - 99			
bis(2-chloroethoxy)methane	2377.67	330	59	3333.33		71.3	41 - 90			
bis(2-Chloroethyl)ether	2267.67	330	57	3333.33		68.0	38 - 84			
bis(2-chloroisopropyl)ether	2576.00	330	65	3333.33		77.3	20 - 100			
bis(2-ethylhexyl)phthalate	2675.33	330	83	3333.33		80.3	57 - 111			
Butylbenzylphthalate	2543.33	330	250	3333.33		76.3	54 - 109			
Chrysene	2664.33	330	43	3333.33		79.9	61 - 113			
Di-n-butylphthalate	2999.00	330	230	3333.33		90.0	65 - 113			
Di-n-octylphthalate	3126.33	330	48	3333.33		93.8	54 - 111			
Dibenz(a,h)anthracene	2997.00	330	43	3333.33		89.9	63 - 126			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
LCS (B9C0661-BS1) - Continued					Prepared: 3/23/2019 Analyzed: 3/25/2019					
Dibenzofuran	2954.67	330	55	3333.33		88.6	67 - 103			
Diethyl phthalate	2751.00	330	47	3333.33		82.5	62 - 108			
Dimethyl phthalate	2639.67	330	46	3333.33		79.2	65 - 103			
Fluoranthene	3077.67	330	47	3333.33		92.3	66 - 117			
Fluorene	2798.33	330	49	3333.33		84.0	65 - 112			
Hexachlorobenzene	3075.00	330	41	3333.33		92.3	59 - 117			
Hexachlorobutadiene	2815.67	660	61	3333.33		84.5	44 - 99			
Hexachlorocyclopentadiene	3185.67	660	64	3333.33		95.6	44 - 102			
Hexachloroethane	2303.33	330	71	3333.33		69.1	38 - 85			
Indeno(1,2,3-cd)pyrene	3027.00	330	44	3333.33		90.8	63 - 123			
Isophorone	2422.00	330	57	3333.33		72.7	46 - 98			
N-Nitroso-di-n propylamine	2484.33	330	65	3333.33		74.5	45 - 98			
N-Nitrosodiphenylamine	2856.33	330	48	3333.33		85.7	67 - 101			
Naphthalene	2611.67	330	60	3333.33		78.4	54 - 92			
Nitrobenzene	2441.00	330	67	3333.33		73.2	45 - 94			
Pentachlorophenol	2868.67	1600	190	3333.33		86.1	45 - 137			
Phenanthrene	2914.00	330	46	3333.33		87.4	68 - 113			
Phenol	2335.00	330	130	3333.33		70.1	40 - 95			
Pyrene	3025.67	330	53	3333.33		90.8	62 - 124			
Pyridine	295.000	1600	270	3333.33		8.85	3 - 93			
Surrogate: 1,2-Dichlorobenzene-d	*1945*			*3333.33*		*58.4*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*2876*			*3325.00*		*86.5*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2331*			*3325.00*		*70.1*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2119*			*3333.33*		*63.6*	*16 - 107*			
Surrogate: 2-Fluorophenol	*1953*			*3325.00*		*58.7*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*2107*			*3333.33*		*63.2*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*1839*			*3333.33*		*55.2*	*16 - 99*			
Surrogate: Phenol-d6	*2233*			*3325.00*		*67.2*	*17 - 90*			
Duplicate (B9C0661-DUP1)			**Source: 1901055-04**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
1,2,4-Trichlorobenzene	ND	3300	710		ND			20	D1	
1,2-Dichlorobenzene	ND	3300	600		ND			20	D1	
1,3-Dichlorobenzene	ND	3300	650		ND			20	D1	
1,4-Dichlorobenzene	ND	3300	600		ND			20	D1	
2,4,5-Trichlorophenol	ND	3300	610		ND			20	D1	
2,4,6-Trichlorophenol	ND	3300	2200		ND			20	D1	
2,4-Dichlorophenol	ND	16000	1200		ND			20	D1	
2,4-Dimethylphenol	ND	3300	1200		ND			20	D1	
2,4-Dinitrophenol	ND	16000	860		ND			20	D1	
2,4-Dinitrotoluene	ND	3300	460		ND			20	D1	
2,6-Dinitrotoluene	ND	3300	490		ND			20	D1	

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Duplicate (B9C0661-DUP1) - Continued			**Source: 1901055-04**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
2-Chloronaphthalene	ND	3300	590		ND				20	D1
2-Chlorophenol	ND	3300	1200		ND				20	D1
2-Methylnaphthalene	ND	3300	670		ND				20	D1
2-Methylphenol	ND	3300	670		ND				20	D1
2-Nitroaniline	ND	16000	2000		ND				20	D1
2-Nitrophenol	ND	3300	1100		ND				20	D1
3,3'-Dichlorobenzidine	ND	6600	2800		ND				20	D1
3-Nitroaniline	ND	16000	440		ND				20	D1
4,6-Dinitro-2-methyphenol	ND	16000	3000		ND				20	D1
4-Bromophenyl-phenylether	ND	3300	500		ND				20	D1
4-Chloro-3-methylphenol	ND	6600	1100		ND				20	D1
4-Chloroaniline	ND	6600	530		ND				20	D1
4-Chlorophenyl-phenylether	ND	3300	480		ND				20	D1
4-Methylphenol	ND	3300	660		ND				20	D1
4-Nitroaniline	ND	16000	2900		ND				20	D1
4-Nitrophenol	ND	3300	1500		ND				20	D1
Acenaphthene	ND	3300	480		ND				20	D1
Acenaphthylene	ND	3300	510		ND				20	D1
Anthracene	ND	3300	490		ND				20	D1
Benzidine (M)	ND	16000	14000		ND				20	D1
Benzo(a)anthracene	ND	3300	390		ND				20	D1
Benzo(a)pyrene	ND	3300	450		ND				20	D1
Benzo(b)fluoranthene	ND	3300	550		ND				20	D1
Benzo(g,h,i)perylene	ND	3300	380		ND				20	D1
Benzo(k)fluoranthene	ND	3300	520		ND				20	D1
Benzoic acid	ND	16000	8900		ND				20	D1
Benzyl alcohol	ND	6600	670		ND				20	D1
bis(2-chloroethoxy)methane	ND	3300	590		ND				20	D1
bis(2-Chloroethyl)ether	ND	3300	570		ND				20	D1
bis(2-chloroisopropyl)ether	ND	3300	650		ND				20	D1
bis(2-ethylhexyl)phthalate	ND	3300	830		ND				20	D1
Butylbenzylphthalate	ND	3300	2500		ND				20	D1
Chrysene	ND	3300	430		ND				20	D1
Di-n-butylphthalate	ND	3300	2300		ND				20	D1
Di-n-octylphthalate	ND	3300	480		ND				20	D1
Dibenz(a,h)anthracene	ND	3300	430		ND				20	D1
Dibenzofuran	ND	3300	550		ND				20	D1
Diethyl phthalate	ND	3300	470		ND				20	D1
Dimethyl phthalate	ND	3300	460		ND				20	D1
Fluoranthene	ND	3300	470		ND				20	D1
Fluorene	ND	3300	490		ND				20	D1
Hexachlorobenzene	ND	3300	410		ND				20	D1

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Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Duplicate (B9C0661-DUP1) - Continued			**Source: 1901055-04**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
Hexachlorobutadiene	ND	6600	610		ND				20	D1
Hexachlorocyclopentadiene	ND	6600	640		ND				20	D1
Hexachloroethane	ND	3300	710		ND				20	D1
Indeno(1,2,3-cd)pyrene	ND	3300	440		ND				20	D1
Isophorone	ND	3300	570		ND				20	D1
N-Nitroso-di-n propylamine	ND	3300	650		ND				20	D1
N-Nitrosodiphenylamine	ND	3300	480		ND				20	D1
Naphthalene	ND	3300	600		ND				20	D1
Nitrobenzene	ND	3300	670		ND				20	D1
Pentachlorophenol	ND	16000	1900		ND				20	D1
Phenanthrene	ND	3300	460		ND				20	D1
Phenol	ND	3300	1300		ND				20	D1
Pyrene	ND	3300	530		ND				20	D1
Pyridine	ND	16000	2700		ND				20	D1
Surrogate: 1,2-Dichlorobenzene-d	*1553*			*3333.33*		*46.6*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*1660*			*3325.00*		*49.9*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*1900*			*3325.00*		*57.1*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*1793*			*3333.33*		*53.8*	*16 - 107*			
Surrogate: 2-Fluorophenol	*1580*			*3325.00*		*47.5*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*1907*			*3333.33*		*57.2*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*1447*			*3333.33*		*43.4*	*16 - 99*			
Surrogate: Phenol-d6	*1683*			*3325.00*		*50.6*	*17 - 90*			
Matrix Spike (B9C0661-MS1)			**Source: 1900986-10**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
1,2,4-Trichlorobenzene	2293.67	330	71	3333.33	ND	68.8	27 - 96			
1,2-Dichlorobenzene	2293.67	330	60	3333.33	ND	68.8	25 - 87			
1,3-Dichlorobenzene	2065.33	330	65	3333.33	ND	62.0	24 - 84			
1,4-Dichlorobenzene	2031.00	330	60	3333.33	ND	60.9	25 - 85			
2,4,5-Trichlorophenol	2573.00	330	61	3333.33	ND	77.2	29 - 122			
2,4,6-Trichlorophenol	2599.33	330	220	3333.33	ND	78.0	21 - 127			
2,4-Dichlorophenol	2415.67	1600	120	3333.33	ND	72.5	24 - 115			
2,4-Dimethylphenol	2394.33	330	120	3333.33	ND	71.8	19 - 124			
2,4-Dinitrophenol	2127.67	1600	86	3333.33	ND	63.8	0 - 118			
2,4-Dinitrotoluene	2379.00	330	46	3333.33	ND	71.4	35 - 112			
2,6-Dinitrotoluene	2443.33	330	49	3333.33	ND	73.3	15 - 137			
2-Chloronaphthalene	2431.67	330	59	3333.33	ND	73.0	35 - 95			
2-Chlorophenol	2092.33	330	120	3333.33	ND	62.8	22 - 100			
2-Methylnaphthalene	2574.00	330	67	3333.33	ND	77.2	17 - 123			
2-Methylphenol	2280.67	330	67	3333.33	ND	68.4	28 - 100			
2-Nitroaniline	2322.33	1600	200	3333.33	ND	69.7	34 - 120			
2-Nitrophenol	2230.33	330	110	3333.33	ND	66.9	22 - 116			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Matrix Spike (B9C0661-MS1) - Continued			**Source: 1900986-10**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
3,3'-Dichlorobenzidine	2424.00	660	280	3333.33	ND	72.7	9 - 117			
3-Nitroaniline	2321.67	1600	44	3333.33	ND	69.7	29 - 116			
4,6-Dinitro-2-methyphenol	2537.67	1600	300	3333.33	ND	76.1	21 - 126			
4-Bromophenyl-phenylether	2702.33	330	50	3333.33	ND	81.1	36 - 108			
4-Chloro-3-methylphenol	2478.67	660	110	3333.33	ND	74.4	32 - 116			
4-Chloroaniline	2493.00	660	53	3333.33	ND	74.8	22 - 115			
4-Chlorophenyl-phenylether	2603.33	330	48	3333.33	ND	78.1	36 - 104			
4-Methylphenol	2430.00	330	66	3333.33	ND	72.9	32 - 98			
4-Nitroaniline	2602.67	1600	290	3333.33	ND	78.1	37 - 116			
4-Nitrophenol	2353.00	330	150	3333.33	ND	70.6	0 - 148			
Acenaphthene	2478.67	330	48	3333.33	ND	74.4	35 - 108			
Acenaphthylene	2510.33	330	51	3333.33	ND	75.3	35 - 108			
Anthracene	2576.67	330	49	3333.33	ND	77.3	40 - 114			
Benzidine (M)	2179.33	1600	1400	3333.33	ND	65.4	0 - 161			
Benzo(a)anthracene	2240.33	330	39	3333.33	ND	67.2	42 - 113			
Benzo(a)pyrene	2600.67	330	45	3333.33	ND	78.0	38 - 117			
Benzo(b)fluoranthene	2678.67	330	55	3333.33	ND	80.4	35 - 117			
Benzo(g,h,i)perylene	2517.33	330	38	3333.33	ND	75.5	32 - 121			
Benzo(k)fluoranthene	2591.00	330	52	3333.33	ND	77.7	34 - 119			
Benzoic acid	ND	1600	890	3333.33	ND	NR	19 - 133			M2
Benzyl alcohol	2489.00	660	67	3333.33	ND	74.7	24 - 102			
bis(2-chloroethoxy)methane	2076.33	330	59	3333.33	ND	62.3	27 - 88			
bis(2-Chloroethyl)ether	1986.00	330	57	3333.33	ND	59.6	26 - 82			
bis(2-chloroisopropyl)ether	2268.67	330	65	3333.33	ND	68.1	15 - 92			
bis(2-ethylhexyl)phthalate	2398.33	330	83	3333.33	ND	72.0	21 - 128			
Butylbenzylphthalate	2324.67	330	250	3333.33	ND	69.7	14 - 136			
Chrysene	2422.67	330	43	3333.33	ND	72.7	37 - 113			
Di-n-butylphthalate	2696.67	330	230	3333.33	ND	80.9	40 - 112			
Di-n-octylphthalate	2771.33	330	48	3333.33	ND	83.1	8 - 137			
Dibenz(a,h)anthracene	2681.67	330	43	3333.33	ND	80.5	29 - 128			
Dibenzofuran	2676.00	330	55	3333.33	ND	80.3	40 - 109			
Diethyl phthalate	2499.00	330	47	3333.33	ND	75.0	38 - 108			
Dimethyl phthalate	2432.00	330	46	3333.33	ND	73.0	38 - 106			
Fluoranthene	2660.00	330	47	3333.33	ND	79.8	37 - 118			
Fluorene	2524.00	330	49	3333.33	ND	75.7	38 - 114			
Hexachlorobenzene	2777.33	330	41	3333.33	ND	83.3	35 - 115			
Hexachlorobutadiene	2357.33	660	61	3333.33	ND	70.7	31 - 101			
Hexachlorocyclopentadiene	2724.67	660	64	3333.33	ND	81.7	28 - 99			
Hexachloroethane	1947.00	330	71	3333.33	ND	58.4	27 - 87			
Indeno(1,2,3-cd)pyrene	2662.00	330	44	3333.33	ND	79.9	29 - 125			
Isophorone	2176.67	330	57	3333.33	ND	65.3	26 - 97			
N-Nitroso-di-n propylamine	2220.00	330	65	3333.33	ND	66.6	27 - 97			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Matrix Spike (B9C0661-MS1) - Continued			**Source: 1900986-10**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
N-Nitrosodiphenylamine	2596.33	330	48	3333.33	ND	77.9	19 - 123			
Naphthalene	2201.33	330	60	3333.33	ND	66.0	26 - 103			
Nitrobenzene	2110.00	330	67	3333.33	ND	63.3	24 - 99			
Pentachlorophenol	2400.33	1600	190	3333.33	ND	72.0	13 - 130			
Phenanthrene	2619.33	330	46	3333.33	ND	78.6	40 - 116			
Phenol	2138.00	330	130	3333.33	ND	64.1	23 - 96			
Pyrene	2598.67	330	53	3333.33	ND	78.0	36 - 122			
Pyridine	1510.00	1600	270	3333.33	ND	45.3	7 - 87			
Surrogate: 1,2-Dichlorobenzene-d	*1736*			*3333.33*		*52.1*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*2632*			*3325.00*		*79.2*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2119*			*3325.00*		*63.7*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*1985*			*3333.33*		*59.6*	*16 - 107*			
Surrogate: 2-Fluorophenol	*1746*			*3325.00*		*52.5*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*1922*			*3333.33*		*57.7*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*1635*			*3333.33*		*49.1*	*16 - 99*			
Surrogate: Phenol-d6	*2020*			*3325.00*		*60.7*	*17 - 90*			
Matrix Spike Dup (B9C0661-MSD1)			**Source: 1900986-10**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
1,2,4-Trichlorobenzene	2400.33	330	71	3333.33	ND	72.0	27 - 96	4.54	20	
1,2-Dichlorobenzene	2392.00	330	60	3333.33	ND	71.8	25 - 87	4.20	20	
1,3-Dichlorobenzene	2162.33	330	65	3333.33	ND	64.9	24 - 84	4.59	20	
1,4-Dichlorobenzene	2106.33	330	60	3333.33	ND	63.2	25 - 85	3.64	20	
2,4,5-Trichlorophenol	2642.67	330	61	3333.33	ND	79.3	29 - 122	2.67	20	
2,4,6-Trichlorophenol	2680.00	330	220	3333.33	ND	80.4	21 - 127	3.06	20	
2,4-Dichlorophenol	2488.67	1600	120	3333.33	ND	74.7	24 - 115	2.98	20	
2,4-Dimethylphenol	2526.33	330	120	3333.33	ND	75.8	19 - 124	5.37	20	
2,4-Dinitrophenol	2171.67	1600	86	3333.33	ND	65.2	0 - 118	2.05	20	
2,4-Dinitrotoluene	2469.33	330	46	3333.33	ND	74.1	35 - 112	3.73	20	
2,6-Dinitrotoluene	2581.00	330	49	3333.33	ND	77.4	15 - 137	5.48	20	
2-Chloronaphthalene	2516.67	330	59	3333.33	ND	75.5	35 - 95	3.44	20	
2-Chlorophenol	2169.00	330	120	3333.33	ND	65.1	22 - 100	3.60	20	
2-Methylnaphthalene	2644.67	330	67	3333.33	ND	79.3	17 - 123	2.71	20	
2-Methylphenol	2363.33	330	67	3333.33	ND	70.9	28 - 100	3.56	20	
2-Nitroaniline	2465.67	1600	200	3333.33	ND	74.0	34 - 120	5.99	20	
2-Nitrophenol	2291.00	330	110	3333.33	ND	68.7	22 - 116	2.68	20	
3,3'-Dichlorobenzidine	2581.67	660	280	3333.33	ND	77.5	9 - 117	6.30	20	
3-Nitroaniline	2494.00	1600	44	3333.33	ND	74.8	29 - 116	7.16	20	
4,6-Dinitro-2-methyphenol	2676.00	1600	300	3333.33	ND	80.3	21 - 126	5.31	20	
4-Bromophenyl-phenylether	2846.33	330	50	3333.33	ND	85.4	36 - 108	5.19	20	
4-Chloro-3-methylphenol	2589.00	660	110	3333.33	ND	77.7	32 - 116	4.35	20	
4-Chloroaniline	2577.00	660	53	3333.33	ND	77.3	22 - 115	3.31	20	

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Matrix Spike Dup (B9C0661-MSD1) - Continued			**Source: 1900986-10**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
4-Chlorophenyl-phenylether	2692.67	330	48	3333.33	ND	80.8	36 - 104	3.37	20	
4-Methylphenol	2579.67	330	66	3333.33	ND	77.4	32 - 98	5.98	20	
4-Nitroaniline	2708.00	1600	290	3333.33	ND	81.2	37 - 116	3.97	20	
4-Nitrophenol	2481.33	330	150	3333.33	ND	74.4	0 - 148	5.31	20	
Acenaphthene	2510.67	330	48	3333.33	ND	75.3	35 - 108	1.28	20	
Acenaphthylene	2639.00	330	51	3333.33	ND	79.2	35 - 108	5.00	20	
Anthracene	2714.00	330	49	3333.33	ND	81.4	40 - 114	5.19	20	
Benzidine (M)	2546.33	1600	1400	3333.33	ND	76.4	0 - 161	15.5	20	
Benzo(a)anthracene	2367.33	330	39	3333.33	ND	71.0	42 - 113	5.51	20	
Benzo(a)pyrene	2760.33	330	45	3333.33	ND	82.8	38 - 117	5.96	20	
Benzo(b)fluoranthene	2878.00	330	55	3333.33	ND	86.3	35 - 117	7.17	20	
Benzo(g,h,i)perylene	2727.00	330	38	3333.33	ND	81.8	32 - 121	8.00	20	
Benzo(k)fluoranthene	2769.00	330	52	3333.33	ND	83.1	34 - 119	6.64	20	
Benzoic acid	ND	1600	890	3333.33	ND	NR	19 - 133	NR	20	M2
Benzyl alcohol	2621.33	660	67	3333.33	ND	78.6	24 - 102	5.18	20	
bis(2-chloroethoxy)methane	2163.00	330	59	3333.33	ND	64.9	27 - 88	4.09	20	
bis(2-Chloroethyl)ether	2055.00	330	57	3333.33	ND	61.7	26 - 82	3.41	20	
bis(2-chloroisopropyl)ether	2406.33	330	65	3333.33	ND	72.2	15 - 92	5.89	20	
bis(2-ethylhexyl)phthalate	2548.00	330	83	3333.33	ND	76.4	21 - 128	6.05	20	
Butylbenzylphthalate	2478.67	330	250	3333.33	ND	74.4	14 - 136	6.41	20	
Chrysene	2547.33	330	43	3333.33	ND	76.4	37 - 113	5.02	20	
Di-n-butylphthalate	2902.00	330	230	3333.33	ND	87.1	40 - 112	7.34	20	
Di-n-octylphthalate	3020.67	330	48	3333.33	ND	90.6	8 - 137	8.61	20	
Dibenz(a,h)anthracene	2829.67	330	43	3333.33	ND	84.9	29 - 128	5.37	20	
Dibenzofuran	2764.00	330	55	3333.33	ND	82.9	40 - 109	3.24	20	
Diethyl phthalate	2596.33	330	47	3333.33	ND	77.9	38 - 108	3.82	20	
Dimethyl phthalate	2541.67	330	46	3333.33	ND	76.3	38 - 106	4.41	20	
Fluoranthene	2761.67	330	47	3333.33	ND	82.9	37 - 118	3.75	20	
Fluorene	2604.67	330	49	3333.33	ND	78.1	38 - 114	3.15	20	
Hexachlorobenzene	2904.67	330	41	3333.33	ND	87.1	35 - 115	4.48	20	
Hexachlorobutadiene	2439.67	660	61	3333.33	ND	73.2	31 - 101	3.43	20	
Hexachlorocyclopentadiene	2812.00	660	64	3333.33	ND	84.4	28 - 99	3.15	20	
Hexachloroethane	2038.33	330	71	3333.33	ND	61.2	27 - 87	4.58	20	
Indeno(1,2,3-cd)pyrene	2831.67	330	44	3333.33	ND	85.0	29 - 125	6.18	20	
Isophorone	2283.33	330	57	3333.33	ND	68.5	26 - 97	4.78	20	
N-Nitroso-di-n propylamine	2357.00	330	65	3333.33	ND	70.7	27 - 97	5.99	20	
N-Nitrosodiphenylamine	2844.33	330	48	3333.33	ND	85.3	19 - 123	9.12	20	
Naphthalene	2288.67	330	60	3333.33	ND	68.7	26 - 103	3.89	20	
Nitrobenzene	2195.33	330	67	3333.33	ND	65.9	24 - 99	3.96	20	
Pentachlorophenol	2484.33	1600	190	3333.33	ND	74.5	13 - 130	3.44	20	
Phenanthrene	2759.00	330	46	3333.33	ND	82.8	40 - 116	5.19	20	
Phenol	2257.00	330	130	3333.33	ND	67.7	23 - 96	5.42	20	

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0661 - MSSEMI_S (continued)										
Matrix Spike Dup (B9C0661-MSD1) - Continued			**Source: 1900986-10**		Prepared: 3/23/2019 Analyzed: 3/25/2019					
Pyrene	2751.33	330	53	3333.33	ND	82.5	36 - 122	5.71	20	
Pyridine	1559.00	1600	270	3333.33	ND	46.8	7 - 87	3.19	20	
Surrogate: 1,2-Dichlorobenzene-d	*1779*			*3333.33*		*53.4*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*2723*			*3325.00*		*81.9*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2200*			*3325.00*		*66.2*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2040*			*3333.33*		*61.2*	*16 - 107*			
Surrogate: 2-Fluorophenol	*1828*			*3325.00*		*55.0*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*2031*			*3333.33*		*60.9*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*1715*			*3333.33*		*51.4*	*16 - 99*			
Surrogate: Phenol-d6	*2080*			*3325.00*		*62.5*	*17 - 90*			

Certificate of Analysis

Kleinfelder	Project Number : Sheldon Arleta, 20190264.003A
707 Wilshire Blvd, Suite 1450	Report To : Jeff Waller
Los Angeles , CA 90017	Reported : 03/26/2019

Notes and Definitions

S4	Surrogate was diluted out.
R3	RPD value outside acceptance criteria. Calculation is based on raw values. The analytical batch was validated by the Laboratory Control Sample (LCS).
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

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Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Number of Pages	**3**
Date Received	**03/15/2019**
Date Reported	**03/22/2019**

Telephone: (562)989-4045
Attention: Rachelle Arada

Job Number	Order Date	Client
96670	03/15/2019	ATL

Project ID: 1900986
Project Name: PO# SC13596

Enclosed please find results of analyses of 2 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 1900986 96670

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Project Manager: Rachelle Arada
(Rachelle.Arada@atlglobal.com)

Sampler: D. Philo

RECEIVING LABORATORY:

AETL
2834 North Naomi Street
Burbank, CA 91504
Phone :(818) 845-8200
Fax: (818) 845-8840
PO#: SC13596- STANDARD TAT

IMPORTANT : Please include Work Order # and PO # in your invoice.

Analysis	Due	Expires	Sampled	Comments
ATL Lab#: 1900986-04 / E-2-5.0		**Soil**	**03/13/19 13:50**	96670.01
8151_SUB	**03/22/19 17:00**	03/27/19 13:50		
[Chlorinated Herbicides]				
1-Glass Jar - 2 oz				
ATL Lab#: 1900986-10 / E-1-10.0		**Soil**	**03/13/19 14:55**	96670.02
8151_SUB	**03/22/19 17:00**	03/27/19 14:55		
[Chlorinated Herbicides]				
1-Glass Jar - 2 oz				

Released By	Date	Received By	Date
	3/15/19		3/15/19 1035
AG	3/15/19 1300	Antia	03/15/19 1300

AMERICAN ENVIRONMENTAL TESTING LABORATORY
2834 NORTH NAOMI ST. BURBANK, CALIFORNIA 91504 DHS # 1541 LACSD# 10181
TEL (888) 288-AETL (818) 845-8200 FAX (818) 845-8840 www.aetlab.com

COOLER RECEIPT FORM

Client Name: ATL
Project Name:
AETL Job Number: 96670
Date Received: 03/15/19 Received by: AJ –
Carrier: ☒ AETL Courier ☐ Client ☐ GSO ☐ FedEx ☐ UPS
☐ Others:

Samples were received in: ☒ Cooler (1) ☐ Other (Specify):
Inside temperature of shipping container No 1: 3 - 3 . 6 , No 2: , No 3:
Type of sample containers: ☐ VOA, ☐ Glass bottles, ☐ ☒ Wide mouth jars, ☐ ☐ HDPE bottles, ☐ Metal sleeves, ☐ Others (Specify):
How are samples preserved: ☐ None, ☐ Ice , ☒ Blue Ice, ☐ Dry Ice
☒ None, ☐ HNO_3, ☐ NaOH, ☐ ZnOAc, ☐ HCl, ☐ $Na_2S_2O_3$, ☐ MeOH
☐ Other (Specify):

	Yes	No, explain below	Name, if client was notified.
1. Are the COCs Correct?	✓		
2. Are the Sample labels legible?	✓		
3. Do samples match the COC?	✓		
4. Are the required analyses clear?	✓		
5. Is there enough samples for required analysis?	✓		
6. Are samples sealed with evidence tape?		✓	
7. Are sample containers in good condition?	✓		
8. Are samples preserved?	✓		
9. Are samples preserved properly for the intended analysis?	✓		
10. Are the VOAs free of headspace?	N/A		
11. Are the jars free of headspace?	✓		

Explain all "No" answers for above questions:

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Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Telephone: (562)989-4045
Attention: Rachelle Arada

Project ID: 1900986
Date Received 03/15/2019
Date Reported 03/22/2019

Job Number	Order Date	Client
96670	03/15/2019	ATL

CERTIFICATE OF ANALYSIS
CASE NARRATIVE

AETL received 2 samples with the following specification on 03/15/2019.

Lab ID	Sample ID	Sample Date	Matrix	Quantity Of Containers
96670.01	1900986-04	03/13/2019	Soil	1
96670.02	1900986-10	03/13/2019	Soil	1

Method ^ Submethod	Req Date	Priority	TAT	Units
(8151A)	03/22/2019	2	Normal	ug/Kg

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Dire

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ANALYTICAL RESULTS

Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Telephone: (562)989-4045
Attn: Rachelle Arada
Page: 2

Project ID: 1900986
Project Name: PO# SC13596

AETL Job Number	Submitted	Client
96670	03/15/2019	ATL

Method: (8151A), Chlorinated Herbicides by GC/ECD

QC Batch No: 031519MB1

Our Lab I.D.			Method Blank	**96670.01**	**96670.02**		
Client Sample I.D.				1900986-04	1900986-10		
Date Sampled				03/13/2019	03/13/2019		
Date Prepared			03/15/2019	03/15/2019	03/15/2019		
Preparation Method			3550B	3550B	3550B		
Date Analyzed			03/18/2019	03/18/2019	03/18/2019		
Matrix			Soil	Soil	Soil		
Units			ug/Kg	ug/Kg	ug/Kg		
Dilution Factor			1	1	1		
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**		
Acifluorfen	20	20	ND	ND	ND		
Bentazon	10	10	ND	ND	ND		
Chloramben	10	10	ND	ND	ND		
2,4-D	10	10	ND	ND	ND		
Dalapon	20	20	ND	ND	ND		
2,4-DB	10	10	ND	ND	ND		
DCPA diacid	20	20	ND	ND	ND		
Dicamba	10	10	ND	ND	ND		
3,5-Dichlorobenzoic acid	10	10	ND	ND	ND		
Dichloroprop	10	10	ND	ND	ND		
Dinoseb (DNBP, 2-sec-Butyl-4, 6-dinitrophenol)	20	20	ND	ND	ND		
MCPA	2000	2000	ND	ND	ND		
MCPP	2000	2000	ND	ND	ND		
4-Nitrophenol	10	10	ND	ND	ND		
Pentachlorophenol (PCP)	10	10	ND	ND	ND		
Picloram	10	10	ND	ND	ND		
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	10	10	ND	ND	ND		
2,4,5-TP	10	10	ND	ND	ND		
Our Lab I.D.			Method Blank	**96670.01**	**96670.02**		
Surrogates	**%Rec.Limit**		**% Rec.**	**% Rec.**	**% Rec.**		
DCAA	40-150		55.0	56.2	48.6		

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QUALITY CONTROL RESULTS

Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Telephone: (562)989-4045
Attn: Rachelle Arada
Page: 3

Project ID: 1900986
Project Name: PO# SC13596

AETL Job Number	Submitted	Client
96670	03/15/2019	ATL

Method: (8151A), Chlorinated Herbicides by GC/ECD

QC Batch No: 031519MB1; Dup or Spiked Sample: 96669.01; LCS: Clean Sand; QC Prepared: 03/15/2019; QC Analyzed: 03/18/2019; Units: ug/Kg

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
2,4-D	0.00	25.0	15.9	63.6	25.0	16.5	66.0	3.7	40-140	<40
Dinoseb (DNBP, 2-sec-Butyl-4, 6-dinitrophenol)	0.00	25.0	16.1	64.4	25.0	16.7	66.8	3.7	40-140	<40
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	0.00	25.0	18.5	74.0	25.0	15.7	62.8	16.4	40-140	<40
Surrogates										
DCAA	0.00	50.0	30.4	60.8	50.0	33.6	67.2	10.0	40-140	<40

QC Batch No: 031519MB1; Dup or Spiked Sample: 96669.01; LCS: Clean Sand; QC Prepared: 03/15/2019; QC Analyzed: 03/18/2019; Units: ug/Kg

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS/LCSD % Limit						
2,4-D	25.0	12.6	50.4	50-140						
Dinoseb (DNBP, 2-sec-Butyl-4, 6-dinitrophenol)	25.0	14.7	58.8	50-140						
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	25.0	13.0	52.0	50-140						
LCS										
Dalapon	25.0	16.4	65.6	50-140						
2,4-DB	25.0	15.3	61.2	50-140						
Dicamba	25.0	14.0	56.0	50-140						
Dichloroprop	25.0	13.4	53.6	50-140						
MCPA	2,500	1,550	61.8	50-140						
MCPP	2,500	1,330	53.2	50-140						
2,4,5-TP	25.0	15.6	62.4	50-140						
Surrogates										
DCAA	50.0	22.0	44.0	50-140						

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Data Qualifiers and Descriptors

Data Qualifier:

#:	Recovery is not within acceptable control limits.
*:	In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
B:	Analyte was present in the Method Blank.
D:	Result is from a diluted analysis.
E:	Result is beyond calibration limits and is estimated.
H:	Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
J:	Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
M:	Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
MCL:	Maximum Contaminant Level
NS:	No Standard Available
S6:	Surrogate recovery is outside control limits due to matrix interference.
S8:	The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
X:	Results represent LCS and LCSD data.

Definition:

%Limi:	Percent acceptable limits.
%REC:	Percent recovery.
Con.L:	Acceptable Control Limits
Conce:	Added concentration to the sample.
LCS:	Laboratory Control Sample
MDL:	Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.

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Data Qualifiers and Descriptors

MS:	Matrix Spike
MS DU:	Matrix Spike Duplicate
ND:	Analyte was not detected in the sample at or above MDL.
PQL:	Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
Recov:	Recovered concentration in the sample.
RPD:	Relative Percent Difference

ADVANCED TECHNOLOGY LABORATORIES
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CHAIN OF CUSTODY RECORD

Page 1 of 1

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20180415

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Kleinfelder		Address: 2280 Market Street, Suite 300	Tel: (951) 801-3681
		City: Riverside State: Ca Zip: 91709	Fax:
SEND REPORT TO:		SEND INVOICE TO: ☑ same as SEND REPORT TO	EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____
Attn: Jeff Waller	Email: jwaller@kleinfelder.com	Attn: Jeff Waller	Email: accountspayableus@kleinfelder.com
Company: Kleinfelder		Company:	QA/QC: ☑ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____
Address: 2280 Market Street, #300		Address:	
City: Riverside State: Ca Zip: 91709		City: State: Zip:	

PROJECT SAMPLES

Project Name:	Quote #:	Special Instructions/Comments:
Sheldon Arleta		
Project No.: 20190264.003A	PO #:	
Sampler: Dan Philo		

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	6010 / 7000 (Title 22 Metals)	8015 (GRO)	8015 (DRO)	8081 (Organochlorine Pesticides)	8082 (PCBs)	8260 / 624 (Volatiles)	8270 (Semi-volatiles)	Select Analysis	8151	EPA 1664	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Soil	Select Solid Matrix	Select Water Matrix	Select Wastewater Matrix	Select Non-aqueous Matrix	Enter Custom Matrix	Turnaround Time (TAT)	Container: Quantity	Container: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Bottle; 7=Canister	Container: Material: 1=Glass; 2=Plastic; 3=Metal	Container: Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=ZnNaO2; 6=NaOH; 7=NA2S2O3	Remarks
1	190484 - 1	E-2-0.5	03/13/19	1:20 pm	X				X					X																5	1	5	1		
2	2	E-2-1.0	03/13/19	1:25 pm	X					X				X																5	4	2,5	1	3	
3	3	E-2-2.5	03/13/19	1:30 pm	X					X				X																5	6	2,5	1	3	MS/MS
4	4	E-2-5.0	03/13/19	1:50 pm	X	X		X		X	X		X	X																5	8	2,5	1	3	
5	5	E-2-10.0	03/13/19	2:00 pm	X					X				X																5	4	2,5	1	3	
6	6	E-1-0.5	03/13/19	2:30 pm	X			X						X																5	1	5	1		
7	7	E-1-1.0	03/13/19	2:33 pm	X					X				X																5	4	2,5	1	3	
8	8	E-1-2.5	03/13/19	2:35 pm	X					X				X																5	4	2,5	1	3	
9	9	E-1-5.0	03/13/19	2:50 pm	X					X				X																5	4	2,5	1	3	
10	10	E-1-10.0	03/13/19	2:55 pm	X	X				X	X		X	X																5	8	2,5	1	3	

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Printed Name _____ Signature _____

KLEINFELDER
Bright Light Solutions.

1900986

PROJECT NO.	PROJECT NAME	RECEIVING LAB:
20190264.003A	Sheldon Arketa	ATL
L.P. NO. (PO. NO.)	SAMPLERS: (Signature/Number)	
	D. Philo	

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CON-TAINERS	TYPE OF CON-TAINERS	ANALYSIS: EPA 6010B	EPA 1664	EPA 8260	EPA 8270	EPA 8081	EPA 8015M	EPA 8151	INSTRUCTIONS/REMARKS
1	03/13/19	1320	E-2-0.5	Soil	1	jar	X	X						Standard TAT
2		1325	E-2-1.0		4	jar/VOA	X	X	X					
3		1330	E-2-2.5		6	jar/VOA	X	X	X					MS/MSD
4		1350	E-2-5.0		8	jar/VOA	X	X	X	X	X	X	X	
5		1400	E-2-10.0		4	jar/VOA	X	X	X					
6		1430	E-1-0.5		1	jar	X	X						
7		1433	E-1-1.0		4	jar/VOA	X	X	X					
8		1435	E-1-2.5		4	jar/VOA	X	X	X					
9		1450	E-1-5.0		4	jar/VOA	X	X	X					
10		1455	E-1-10.0		8	Sleeve/VOA	X	X	X	X	X	X	X	
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/13/19 1507	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/14/19 1945	FPOWS
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Instructions/Remarks:

Send Results To:
dphilo@kleinfelder.com
jwalter@kleinfelder.com
(Dan Philo, Jeff Walter)
Attn:

Page 87 of 88

ENV-02 REV 05/08)

White – Sampler Canary – Return Copy To Shipper Pink – Lab Copy

CHAIN OF CUSTODY

COC NO 08788

ADVANCED TECHNOLOGY LABORATORIES

Sample Receipt Acknowledgement

Work Order # 1900986

Client:	**Kleinfelder - LA**	**Project Manager:**	**Rachelle Arada**
Project:	**Sheldon Arleta, 20190264.003A**	**Project Number:**	**Sheldon Arleta, 20190264.003A**

Report To:
Kleinfelder
Daniel Philo
707 Wilshire Blvd, Suite 1450
Los Angeles, CA 90017
Phone: (213) 622-3706
Fax: (213) 612-4954

Invoice To:
Kleinfelder
Daniel Philo
707 Wilshire Blvd, Suite 1450
Los Angeles, CA 90017
Phone :(213) 622-3706
Fax: (213) 612-4954

Date Due:	03/21/19 17:00 (5 day TAT)	Date Received:	03/13/19 15:07
Received By:	Joel Arceo	Date Logged In:	03/14/19 10:57
Logged In By:	Fernando Diwa	Shipped by:	ATL

All samples that require thermal preservation are considered acceptable if the arrival temperature is within 2 °C of the required temperature or method-specified range. For samples with a specified temperature of 4 °C, samples received with a temperature ranging from just above freezing temperature of water to 6 °C shall be acceptable. Samples that are hand-delivered immediately following collection may not meet these criteria; however, they will be deemed acceptable according to NELAC standards if there is evidence that the chilling process has begun, such as arrival on ice, etc.

The laboratory documents the condition of the sample/s as received per requirement of laboratory certification. If the sample received is unpreserved or under-preserved, the laboratory will adjust the preservatives to bring the sample to preservation criteria.

Any sample compliance issues will be communicated to the client. If the client does not respond within 24 hours of sample receipt, all tests will be performed as requested regardless. For short holding time samples (< 24 hours), analysis will proceed regardless.

If you have any questions or further instructions, please contact your Project Manager at (562) 989-4045.

Sample(s) received on ice?	Yes	☑	No	☐	Default Cooler Temp: 5.0 °C
Sample(s) received on blue ice?	Yes	☐	No	☑	
Cooler temperature within acceptance limit?	Yes	☑	No	☐	
Shipping container received in good condition?	Not Applicable				
Chain of Custody (COC) present?	Yes	☑	No	☐	
Sampler name present in COC?	Yes	☑	No	☐	
COC signed when relinquished and received?	Yes	☑	No	☐	
COC agrees with sample labels?	Yes	☑	No	☐	
Samples in proper container/bottle?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample amount for indicated tests?	Yes	☑	No	☐	
All samples received within holding time?	Yes	☑	No	☐	
Water samples submitted?	Yes	☐	No	☑	
Water samples meet preservation criteria?	Not Applicable				

Sample Receipt Comments:

Printed: 3/14/2019 12:33:46PM

APPENDIX D
GEOPHYSICAL SUMMARY REPORT

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Subsurface Investigation Report

Project:

Sheldon Arleta Park
Bureau of Engineering Project
12455 W. Wicks St.
Los Angeles, CA

Prepared For:

Dan Philo
Kleinfelder

Prepared By:

Pacific Coast Locators, Inc.
EM & GPR Technicians
2606 Foothill Blvd., Ste. G La Crescenta, CA 91214
Ph: 818-249-7700 Fax: 818-249-7701

INTRODUCTION

Pacific Coast Locators, Inc. performed a Subsurface Investigation on Wednesday, March 13th, 2019 to clear and mark-out all accessible underground utilities for 8 proposed boring locations on-site. Our technician also performed a sweep & scan to determine the location of a potential Underground Storage Tank, associated features and/or evidence of excavation within the areas of concern on-site.

METHODOLOGY AND EQUIPMENT

The GSSI UtilityScan SIR 3000 Ground Penetrating Radar unit with 400MHz antenna sends a dielectric signal into the earth, which registers with the density of the soil that it is penetrating. Any other material of varied density will either speed up the signal creating an inverted hyperbola or slow it down leaving a hyperbola trail. This is similar to a rock in a creek. The water bends around the rock leaving a tail wake. The GPR signal is not bending however; it is sending back a continuous signal of the curvature of the anomaly or buried feature it encounters. GPR findings are not always accurate due to certain site conditions such as soil lithology, moisture and soil make-up. These can limit the depth to which the GPR antenna can penetrate to locate buried features.

The Sensors & Software Conquest 100 Concrete Scanner high-performance is a compact, lightweight, portable antenna allows easy scanning of walls, ceilings, and hard-to-access areas. It is used to locate rebar, post-tension cables, metallic and non-metallic conduits, voids and current- carrying wires embedded in concrete. The system provides accurate insights of objects below the concrete surface, even on a curved surface or column to depths of approximately 30 cm – 91 cm (12 in – 36 in). Data collection modes allow for line scanning (to a maximum of 150') and grid scanning (2' x 2', 2' x 4', 4' x 4', 2' x 8' and 8' x 8').

The RD8100 Electro-Magnetic Transmitter & Receiver has Inductive & Conductive capability to locate buried conductive underground utilities, such as copper, steel and galvanized metal water pipes, electrical lines, power lines, tele-communication lines, metal and steel gas lines, and metal and steel pipelines. The RD8100 features include multiple active frequencies to delineate actively the depth and location of the target utility or pipe. The RD4000 receiver has a peak and null gain feature that pinpoints the target utility or pipe in congested areas. The audible signal to noise feature makes it easy for the locating technician to determine accurately the location of a directly connected utility or pipe by sound.

According to Radio Detection, the specifications of the RD8100 include
Sensitivity: 6E-15 Tesla 5μA at 1 meter (33kHz)
Dynamic range: 140dB rms/√Hz
Selectivity: 120dB/Hz
Depth measurement precision: ± 3%
Locate accuracy: ± 5% of depth

The Jameson Duct Hunter 300 Traceable Rodder uses the RD8100 transmitter to energize the rod which is pushed into underground pipe to emit signal that is picked up by the RD8100 receiver above ground. This allows an entire buried utility pipe to be traced and marked continuously from above ground by one man without digging. The rod's ferrule attaches to a 512 Mhz sonde, roller guide, or pulling eye. 5/16" diameter rod has 6" bend radius and is recommended for 2"- 4" conduit.

The Schonstedt GA-52Cx Magnetic Locator detects iron and steel objects underground, such as USTs, buried oil wells and buried metal monitoring well lids. The Schonstedt GA-52Cx Magnetometer provides audio detection signals with frequencies that vary with gradient field intensity. The signals peak in frequency when the locator's tip is held directly over the target.

SITE AREA

The project site is located within a park at the approximate address 12455 W. Wicks St. in Los Angeles, CA. Below is an aerial view of the site showing approximate project areas.

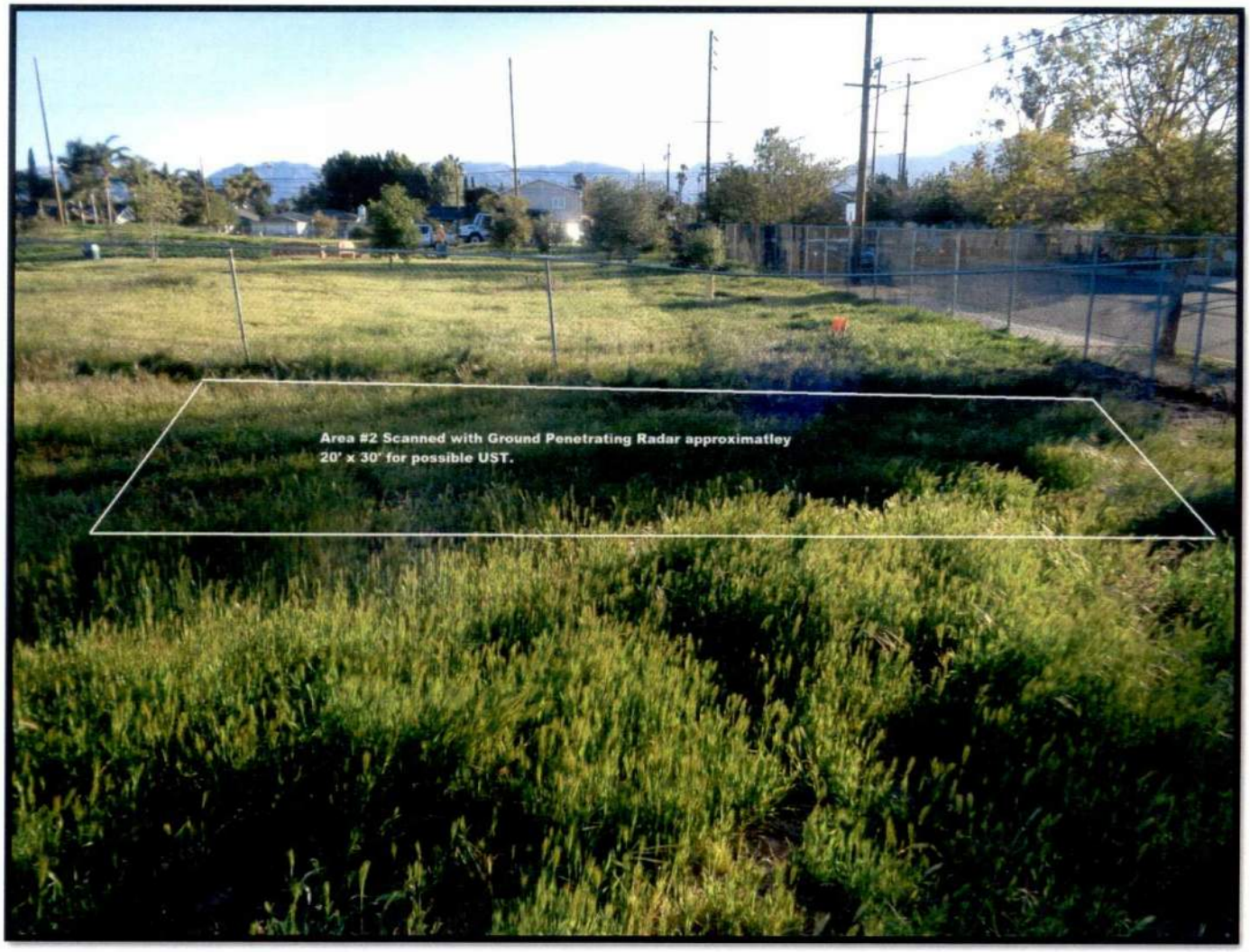


ANALYSES / INTERPRETATIONS AND FINDINGS

Our technician performed a Subsurface Investigation to clear and mark-out all accessible underground utilities for 8 proposed boring locations on-site. All confirmed utilities were delineated with marking paint and/or marking flags. Our technician also performed a sweep & scan to determine the location of a potential Underground Storage Tank, associated features and/or evidence of excavation within the two approximately 20' x 30' areas of concern on-site. No evidence of an existing Underground Storage Tank or excavation was found.

Below are photos of areas scanned on-site:





Field work performed by Bobby Oshiro,
EM & GPR Technician,
Pacific Coast Locators, Inc.

LIMITATIONS

Please be advised that there are limitations to any Subsurface Investigation. The equipment may not achieve maximum effectiveness due to soil conditions, above ground obstructions, reinforced concrete, and a variety of other factors. No Subsurface Investigation or equipment can provide a complete image of buried features. Our results should always be used in conjunction with as many methods as possible including: consultation of existing plans and drawings, exploratory excavation or potholing, visual inspection of above ground features and utilization of services such as Dig Alert/Underground Service Alert.

APPENDIX B

(Building and Safety Approvals of Previous Reports)

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

HELENA JUBANY
PRESIDENT

VAN AMBATIELOS
VICE-PRESIDENT

E. FELICIA BRANNON
VICTOR H. CUEVAS
GEORGE HOVAGUIMIAN

CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

SOILS REPORT APPROVAL LETTER

February 28, 2014

LOG # 83272
SOILS/GEOLOGY FILE - 2

City of Los Angeles
221 N. Figueroa St., Ste 100
Los Angeles, CA 90012

TRACT:	The Maclay Rancho (MR 37-5/16)
LOT(S):	Fr 325
LOCATION:	12600 W. Sheldon St.

TRACT:	14137
LOT(S):	1-5
LOCATION:	12455 W. Wicks St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE(S) OF DOCUMENT	PREPARED BY
Soils Report	03-053	02/11/2014	City of LA - GEO
Soils Report	03-053	02/07/2014	City of LA - GEO

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Approval Letter	75610 LADBS	12/14/2011	
Soils Report	W.O. E1700618	12/13/2011	Geotech. Eng. Group (GEO)
Soils Report	W.O. E1700618	11/10/2011	Geotech. Eng. Group (GEO)
Dept. Approval Letter	45346	10/19/2004	LADBS
Soil Report	--	08/27/2004	GED

The Grading Division of the Department of Building and Safety has reviewed the referenced soil reports providing recommendations for the proposed two baseball diamond backstops and the proposed retaining wall. According to the consultants, the new baseball stops are to be located at the south end of the new Cesar Chavez Park. It is recommended that CIDH piles shall be used to support the baseball backstop fences. The new retaining wall will be approximately 4 feet high, supporting the previously constructed structural fill pad for the North Restroom at Cesar Chavez Park. The consultants recommend that the proposed retaining wall be supported on conventional shallow footings.

The referenced reports are acceptable, provided the following conditions are complied with during

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2011 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The soils engineer shall review and approve the detailed plans prior to issuance of any permit. This approval shall be by signature on the plans which clearly indicates that the soils engineer has reviewed the plans prepared by the design engineer and that the plans included the recommendations contained in his report. (7006.1)

2. All recommendations of the reports which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit. (7006.1)

4. A grading permit shall be obtained for all structural fill and retaining wall backfill. (106.1.2)

5. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density (D1556). Placement of gravel in lieu of compacted fill is allowed only if complying with Section 91.7011.3 of the Code. (7011.3)

6. If import soils are used, no footings shall be poured until the soils engineer has submitted a compaction report containing in-place shear test data and settlement data to the Grading Division of the Department, and obtained approval. (7008.2)

7. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of three feet whichever is greater. (7011.3).

8. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill. (1809.2)

9. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction. (7013.12)

10. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety. (3301.1)

11. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised

recommendations to the Department for approval.

12. Unsurcharged temporary excavations shall be trimmed back at a gradient not exceeding 1:1, as recommended. Vertical cuts shall not exceed 5 feet and are only permitted for footings excavation in the new structural fill.

13. Footings for the proposed retaining wall shall derive entire support from minimum 2 feet of compacted fill, as recommended.

14. The proposed baseball backstop fences shall be supported on CIDH piles with a minimum pile diameter of 18 inches, and embedded minimum 6.5 feet in the compacted landfill cap or natural soils. Piles shall not be drilled into the trash fill, as recommended.

15. Pile caisson and/or isolated foundation ties are required by Code Sections 1809.13 and/or 1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2011-30.

16. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up; an admixture that reduces the problem of segregation of paste/aggregates and dilution of paste shall be included. (1808.8.3)

17. Retaining walls shall be designed for the lateral earth pressures specified in the section titled "Active Pressure by Location" starting on page 5 of the 02/07/2014 report. All surcharge loads shall be included into the design.

18. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device. (7013.11)

19. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soil report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record. (1805.4)

20. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector. (108.9)

21. Prefabricated drainage composites (Miradrain) (Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

22. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS. (7013.10)

23. The soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading. (7008 & 1704.7)

24. All friction pile or caisson drilling and installation shall be performed under the inspection

and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent material in a written field memorandum. (1803.5.5, 1704.9)

25. Prior to the pouring of concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the LADBS Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

26. Prior to excavation, an initial inspection shall be called with LADBS Inspector at which time sequence of construction, pile installation, protection fences and dust and traffic control will be scheduled. (108.9.1)

27. Installation of shoring, underpinning, slot cutting excavations and/or pile installation shall be performed under the inspection and approval of the soils engineer and deputy grading inspector. (1704.7)

28. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the LADBS Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included. (7011.3)

YING LIU
Structural Engineering Associate II

YL/yl
Log No. 83272
213-482-0480

cc: Dept of Rec & Parks - Dave Takata, Applicant
LA City - GEO, Project Consultant
VN District Office

To - Tan.
pr.

LA DBS
DEPARTMENT OF BUILDING AND SAFETY

City of Los Angeles

SOIL REPORT APPROVAL LIST

LOG#: 45346 DATE: 10/19/2004 SOIL/GEOLOGY FILE - 2

JOB ADDRESS: 12455 Wicks Street DISTRICT OFFICE: VN

TRACT: 14137 COUNTY REF. #: MP 287-36/

BLOCK:

LOT: 5 ARB:

CURRENT REPORT: LA City GED DATED: 8/27/04

CURRENT REPORT: DATED:

OVERSIZED DOCUMENTS X-REF: 2X DATED: 8/27/04 X-REF: DATED:

PREVIOUS REPORT: DATED:

PREVIOUS REPORT: DATED:

PROJECT DESCRIPTION/COMMENTS: Proposed construction of a new concession stand/restroom building along Wicks Street, a restroom building along Sheldon Street, and a new flare station that preferably be located in the northwest corner of the site, but alternatively can be located in the southwest corner of the site. According to the report, the location of the edge of the landfill is recommended to be determined during grading in order to establish the final location of the structures. The proposed buildings are recommended to be located outside the limits of the landfill and underlain by shallow engineered fill over native soils as recommended. Conventional shallow spread foundations founded in engineered fill over the native soils are recommended for structural support. The report recommends existing fill materials below the proposed foundations to be removed and recompacted to reduce structure settlements.

REVIEWED BY [signature] (Fred Wong) TELEPHONE (213) 482-0491

REVIEWED BY ( ) TELEPHONE

ROBERT STEINBACH - CHIEF OF GRADING DIVISION

SEISMIC HAZARD INFORMATION

LIQUEFACTION STUDY ZONE?	☐ YES	☒ NO
SEISMIC-INDUCED LANDSLIDE STUDY ZONE?	☐ YES	☒ NO
EXEMPT FROM SEISMIC HAZARD ZONE REQUIREMENTS	☒ YES	☐ NO

The geology/soil engineering report(s) have been reviewed by the Grading Section of the Department and have been found to be acceptable provided the proposed construction complies with the conditions specified in this letter. The approval of the reports does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in parenthesis ( ) refer to Code sections of the 1998 edition of the California Building Code, Information Bulletin (P/BC).

LOG#: 45346

INSTRUCTIONS

- All of the following listed and circled conditions shall apply: 1,2,6~8,11,12,13,18,22,24~27,29,31~33,35~39,& 55~58.
- One copy of the subject geologic/soil engineering reports and this approval letter shall be attached to the field set of plans and one copy shall be provided to the Department Plan Checker prior to issuance of the permits.

PLANS

(1.) The geologist/soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans include the recommendations contained in their reports.

(2.) All recommendations of the report(s) which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. All conditions of the Department letter(s) dated____ shall apply, except as superseded herein.

GENERAL BUILDING

4. Buildings adjacent to ascending slopes shall be set back from the toe of the slope a level distance equal to one half the vertical height of the slope, but need not exceed 15 feet. (1806.5.2)

5. Whenever the principal building on a site is added to, altered or repaired in excess of 50 percent of its replacement value, the entire site shall be brought up to the current Code standard. (7005.9)

(6.) The LABC Soil Type underlying the site is S d . (Table 16 A-J)

FOOTINGS/SLABS

(7.) Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of 3 feet whichever is greater.

(8.) All footings shall be founded in certified engineered fill, as recommended.

9. The structural engineer shall verify the adequacy of the existing footings for underpinning.

10. Footings adjacent to a descending slope steeper than 3:1 in gradient shall be located a distance of one-third the vertical height of the slope but need not exceed 40 feet measured horizontally from the face of the slope; for in-ground pools the footing setback shall be one-sixth the slope height to a maximum of 20 feet. (1806.5.3)(Figure 18-I-1)

(11) Permanent building footings in close proximity to the buried cut slope of the landfill pit shall be located at a minimum of 3 feet from the rim of the buried landfill cut slope as recommended, in lieu of the standard setback prescribed by the Building Code. (1806.5.6)

(12.) Footings supported on approved compacted fill or expansive soil shall be reinforced with a minimum of four (4) ½-inch diameter (#4) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed bear the top. (1804.4)

(13.) Concrete floor slabs placed on approved compacted fill or expansive soil shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

14. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch-thick fill of coarse aggregate or on a 2-inch sand bed covered moisture barrier membrane. The slabs shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way. (1804.4)

15. Concrete floor slabs placed on uncertified fill shall be designed as structural slabs.

16. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill.

17. If import soils are used, no footings shall be poured until the soil engineer has submitted a compaction report containing in-place shear test data and settlement data to the Department, and obtained approval

(18.) The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch.

19. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored.

GRADING/SLOPES

20. All new fill slopes shall be no steeper than 2:1. (7011.2)

21. All nonconforming street cut slopes shall be trim-graded back to a slope gradient no steeper than____ or retained by a designed retaining wall.

(22) All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557; Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density.

LOG#: 45346

23. For grading involving import or export of more than 1000 cubic yards of earth materials within the *grading hillside area*, approval is required by the Board of Building and Safety. Application for approval of the haul route must be filed with the Grading Section. Processing time for application is approximately 8 weeks to hearing plus 10-day appeal period. (7006.7.4)

24. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Department and the Department of Public Works, for any grading work in excess of 200 cu yd. (7007.1)

DRAINAGE

25. All roof and pad drainage shall be conducted to the street in an acceptable manner; water shall not be dispersed on to descending slopes without specific approval from the Grading Section and the consulting geologist and soil engineer. (7013.10)

TEMPORARY EXCAVATIONS/RETAINING WALLS

26. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety.

27. A supplemental report shall be submitted to the Grading Section containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way or adjacent structures.

28. Prior to the issuance of any permit which authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation. (3301.2.1)

29. Unsurcharged temporary excavations may be cut vertical up to a height of 5 feet. Portions of the excavation above this height shall be trimmed to no steeper than 1-1/2:1 (horizontal to vertical), as recommended.

30. Slot cuts using the A -B -C method, shall be no wider than___ feet, no higher than ___ feet, for proposed subterranean parking structure excavations.

31. Suitable arrangements shall be made with the Department of Public Works for the proposed removal of support and/or retaining of slopes adjoining the public way, as applicable.

32. Retaining walls for level or slopping backfill shall be designed for a minimum equivalent fluid pressure as indicated on Table 2 (Lateral Earth Pressure), Page 32 of the report.

33. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device.

34. The recommended equivalent fluid pressure (EFP) for the proposed retaining wall shall apply from the top of the freeboard to the bottom of the wall footing.

35. All retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Installation of the subdrain system shall be inspected and approved by the soil engineer and the City grading/building inspector.

CONSTRUCTION INSPECTION AND REPORTING

36. Prior to the placing of compacted fill, a representative of the consulting soil engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the City Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed with the Department upon completion of the work. The fill shall be placed under the inspection and approval of the soil engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

37. Prior to the pouring of concrete, a representative of the consulting geologist and soil engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the City Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work.

38. The soil engineer and the geologist shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading.

39. Prior to excavation, an initial inspection shall be called at which time sequence of shoring, protection fences and dust and traffic control will be scheduled.

40. Installation of shoring, underpinning, and/or slot cutting excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector.

ADDITIONAL CONDITIONS

LOG#: 45346

41. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit.

42. A registered deputy grading inspector approved by and responsible to the project soils engineer shall be required to provide continuous inspection for any proposed slot-cutting, underpinning, shoring, tie-back, or drilling and installation of deep foundations.

43. Casing or other approved method of pile/caisson installation shall be used where caving soils are present.

44. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up.

45. Slurry/lean concrete shall not be used in the passive bearing portion of soldier piles.

46. Cantilevered shoring with a level backfill shall be designed for a minimum equivalent fluid pressure of ___pcf, plus any surcharge, as recommended.

47. Braced/anchored shoring up to____ft high, as a minimum shall be designed for a trapezoidal earth pressure having a uniform _____ H psf distributed over the central six-tenths, plus any surcharge and water loading, as recommended.

48. Estimated lateral deflection of the tops of soldier piles under design loads shall be presented in a table on the plans. Soldier pile deflections during construction and excavation shall be monitored under the supervision of the soils engineer.

49. The installation and testing of temporary tie-back anchors shall comply with the recommendations included in the report or the Department standard sheets titled "Requirement for Tie-back Earth Anchors"(RR23835), whatever is more restrictive.

50. Soil behind the soldier pile shoring spaced greater than___ft clear, shall be retained with lagging, as recommended. Lagging which may experience long-term soil contact shall be treated for insects and decay.

51. All temporary shoring shall be removed prior to occupancy unless administrative approval from the Department is obtained to abandon based on detailed recommendations and figures by the soils engineer.

52. Basement/restrained walls shall be designed for a minimum trapezoidal pressure having a uniform ____H psf distributed over the central six-tenths, plus any surcharge/water load, as recommended.

53. Prefabricated drainage composites may be only used in addition to traditionally accepted methods of draining retained earth.

54. Special provisions such as flexible or swing joints shall be made for buried utilities and drain lines to allow for differential vertical displacement.

(55) Footings shall be founded entirely in certified compacted fill as recommended.

(56) Continuous / isolated footings allowable bearing pressure shall be **(1,500)** psf, for footings with a minimum of **12/18** inches in width and embedded a minimum of **12** inches into **engineered fill** as recommended.

(57) Allowable vertical foundation pressure, frictional and lateral soil bearing values shall be limited to a maximum one-third increase when considering earthquake or other temporary forces. (1805)

(58) Frictional and lateral resistance of soils may be combined, provided the lateral bearing resistance does not exceed two-thirds of the allowable lateral bearing.

MOD # 26633

REQUEST FOR MODIFICATION OF BUILDING ORDINANCES

UNDER AUTHORITY OF L.A.M.C. SECTION 98.0403

Grading

PERMIT APP. #: (None)	**DATE:** 8-7-19
JOB ADDRESS: 12455 W Wicks St; 12600 W Sheldon St	
Tract: 14137; The Maclay Rancho Tract (MR 37-3/16)	**Block:** N/A **Lot:** 1-5; FR 325
Owner: City of Los Angeles, DPW, BOE, Architectural Division	**Petitioner:** City of Los Angeles, DPW, BOE, Geotechnical Engineering Group
Address: 1149 S Broadway, 8th Floor	**Address:** 1149 S Broadway, Ste 120 (MS 495)
City: Los Angeles, CA 90015 State: Zip: Phone: (213) 485-1646	City: Los Angeles, CA 90015 State: Zip: Phone: (213) 847-0538

REQUEST (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY) — **CODE SECTIONS:** 1809.2 & 7011.3

Allow existing uncertified fill for support of proposed concrete slabs, basketball court, parking lot, and areas below non-structural planter and fence walls as described on page 10 of June 11, 2019 soils report. by GED. ↑ new 8211,

JUSTIFICATION (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY)

Uncertified fill will only be used for support of non-structural improvements. These areas will be overexcavated a minimum of 2 feet below new improvements per soils report. Uncertified fill will not be used for support of structural foundations.

Ben Moore — Owner/Petitioner Name (Print) | (Signature) | Geo Engr II — Position

FOR CITY DEPARTMENT'S USE ONLY BELOW THIS LINE

Concurrences required from the following Department(s)

		Print Name	Sign	Approved	Denied
☐	Los Angeles Fire Department			☐	☐
☐	Public Works Bureau of Engineering			☐	☐
☐	Department of City Planning			☐	☐
☐	Department of County Health			☐	☐
☐	Other _____			☐	☐

LA Department of Building and Safety
LA HENR 10612978 8/7/2019 10:06:16 AM
BOARD APPLIC FEE $130.00
SYSTEMS DEV SURCH $7.80
DEV SERV CENTER SURCH $2.90
EXPEDITED FEE $208.00
SYSTEMS DEV SURCH $12.48
DEV SERV CENTER SURCH $6.24
Sub Total : $368.42
Receipt #: 0106075455

DEPARTMENT ACTION

☑ GRANTED ☐ DENIED

Glen Rand — *Reviewed by: (Staff) (print)* | *Sign* | *Date* 08/07/2019

Daniel Schneidereit — *Action taken by: (Supervisor) (print)* | *Sign* | *Date* 8-7-19

~~**NOTE:** IN CASE OF DENIAL, SEE PAGE #2 OF THIS FORM FOR APPEAL PROCEDURES~~

CONDITIONS OF APPROVAL (~~Continued on Page 2~~):

All conditions of the Department approval letter dated 08/07/2019, Log # 109182 shall apply.

For Cashiers Use Only
(PROCESS ONLY WHEN FEES ARE VERIFIED)

FEES

Appeal Processing Fee.. (No. of Items) =	1	$130 + $39/addl	= 130 ~~91.00~~
Inspection Fee ..... (No of Insp.) =		X $ 84.00	= 0.00
Research Fee ... (Total Hours Worked) =	2	X $104.00	= 208 ~~0.00~~
Subtotal			= 338 ~~91.00~~
Surcharge (One Stop)		X 2%	= 10.14 ~~1.82~~
Surcharge (Systems Development)		X 6%	= 20.28 ~~5.46~~
Total Fees			= ~~98.28~~ 368.42

Fees verified by:

Print and Sign Glen Rand

emailQ: eric.m.tan@lacity.org

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

VAN AMBATIELOS
PRESIDENT

E. FELICIA BRANNON
VICE PRESIDENT

JOSELYN GEAGA-ROSENTHAL
GEORGE HOVAGUIMIAN
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CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

FRANK M. BUSH
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

OSAMA YOUNAN, P.E.
EXECUTIVE OFFICER

SOILS REPORT APPROVAL LETTER

August 7, 2019

LOG # 109182
SOILS/GEOLOGY FILE - 2

Architectural Division
1249 S. Broadway, Suite 830
Los Angeles, CA 90015

TRACT: 14137 // The Maclay Rancho (MR 37-5/16)
LOT(S): 1-5 // Fr 325
LOCATION: 12455 W. Wicks St. // 12600 W. Sheldon St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Request for Modification	26633	08/07/2019	LADBS
Update Report	03-053	06/11/2019	City of LA – GED

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Approval Letter	83272	02/28/2014	LADBS
Soils Report	03-053	02/11/2014	City of LA - GEO
Soils Report	03-053	02/07/2014	City of LA - GEO
Dept. Approval Letter	75610R	12/21/2011	LADBS
Soils Report	W.O. E1700618	12/13/2011	Geotech. Eng. Group (GEO)
Soils Report	W.O. E1700618	11/10/2011	Geotech. Eng. Group (GEO)
Dept. Approval Letter	45346	10/19/2004	LADBS
Soil Report	--	08/27/2004	GED

The Grading Division of the Department of Building and Safety has reviewed the referenced update report for the design and construction of the proposed Cezar Chavez Park (Sheldon Arleta Landfill) Phase IIIC project, consisting of improvements at the south side of the park along Wicks Street, as described on pages 2 & 3 of the 06/11/2019 report. The improvements will include a new restroom/office facility, parking lot, basketball court, children's play area, and a baseball field with a backstop, as shown on Figures 2A and 2B in the 06/11/2019 report. Per the consultants, most of the improvements would be located outside of the landfill area with the exception of the parking lot, which will partially extend over the landfill area, and the baseball field and backstop that will be located within the landfill area.

The Department previously conditionally approved the above referenced reports for the proposed improvements in the above referenced letters (see pgs. 8 & 9 in the 06/11/2019 report).

The earth materials at the subsurface exploration locations consist of up to 7 feet of uncertified fill underlain by native soils. Per the consultants, groundwater was not encountered to the maximum depths explored of 51.5 feet, and historically highest groundwater level is between 140 and 150 feet below the surface.

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

The consultants recommend to support the proposed structure(s) on conventional foundations bearing on properly placed fill a minimum of 3 feet thick below the bottom of the footings. According to the consultants, for improvements outside the limits of the landfill, all existing fill within the proposed building or other structural foundations shall be over-excavated to suitable undisturbed natural soil and replaced with compacted fill (see pgs. 9 & 10 in the 06/11/2019 report).

A Request for Modification (RFM) to allow existing uncertified fill for support of concrete slabs and new fill for the proposed basketball court, parking lot, and areas below non-structural planter and fence walls, as described on page 10 of the 06/11/2019 report, was approved by the Department (Mod # 26633, dated 08/07/2019).

The referenced 06/11/2019 update report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2017 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The soils engineer shall review and approve the detailed plans prior to issuance of any permit. This approval shall be by signature on the plans that clearly indicates the soils engineer has reviewed the plans prepared by the design engineer; and, that the plans included the recommendations contained in their reports (7006.1).

2. All conditions of the above referenced Department approval letters dated 10/19/2004 (Log#45346) and 02/28/2014 (Log#83272), shall apply except as specifically modified herein.

3. All recommendations of the report(s) that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

4. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

5. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

6. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

7. If import soils are used, no footings shall be poured until the soils engineer has submitted a compaction report containing in-place shear test data and settlement data to the Grading Division of the Department; and, obtained approval (7008.2).

8. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the bottom of footings or a minimum of three feet, whichever is greater, as recommended (7011.3).

9. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3), except as approved in the above referenced RFM.

10. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

11. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

12. Temporary excavations that remove lateral support to the public way, adjacent property, or adjacent structures shall be supported by shoring. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

13. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

14. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit (3307.3.2).

15. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised recommendations to the Department for approval.

16. Unsurcharged temporary excavation may be cut vertical up to 5 feet. Excavations over 5 feet, to a maximum of 15 feet, shall be trimmed back at a uniform gradient not exceeding 1:1, from top to bottom of excavation, as recommended.

17. Shoring shall be designed for the lateral earth pressures specified in the section titled "Temporary Shoring" starting on page 10 of the 06/11/2016 report; all surcharge loads shall be included into the design.

18. Shoring shall be designed for a maximum lateral deflection of 1 inch, provided there are no structures within a 1:1 plane projected up from the base of the excavation. Where a structure is within a 1:1 plane projected up from the base of the excavation, shoring shall be designed for a maximum lateral deflection of ½ inch, or to a lower deflection determined by the consultant that does not present any potential hazard to the adjacent structure.

19. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.

20. All foundations shall derive entire support from properly placed fill a minimum of 3 feet thick, as recommended and approved by the soils engineer by inspection.

21. Footings supported on approved compacted fill shall be reinforced with a minimum of four (4), 5/8-inch diameter (#5) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed near the top of the footing, as recommended.

22. The seismic design shall be based on a Site Class D as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.

23. Retaining walls higher than 6 feet shall be designed for lateral earth pressure due to earthquake motions as specified on page 14, section 7.4, of the 06/11/2019 report (1803.5.12).

24. All roof, pad and deck drainage shall be conducted to the street in an acceptable manner in non-erosive devices or other approved location in a manner that is acceptable to the LADBS and the Department of Public Works; water shall not be dispersed on to descending slopes without specific approval from the Grading Division and the consulting geologist and soils engineer (7013.10).

25. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

26. The soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading (7008 & 1705.6).

27. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

28. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; shoring; pile installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

29. Installation of shoring and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

30. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included (7011.3).

31. No footing/slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

GLEN RAAD
Geotechnical Engineer I

Log No. 109182
213-482-0480

cc: City of LA - GED, Project Consultant
VN District Office

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: March 12, 2020

To: Steven Fierce, Division Head
Architecture Division

Attention: Gus Malkoun, Project Manager

From: Patrick Schmidt, P.E., G.E., Manager
Geotechnical Engineering Division

Subject: **CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WICKS STREET – SUPPLEMENTAL GEOTECHNICAL REPORT**
W.O. E170163B GED FILE NO. 03-053

Submitted herein is a copy of the Supplemental Geotechnical Report dated March 12, 2020 for the Cesar Chavez Park (Sheldon Arleta Landfill) Phase IIIC project .

If there are any questions in regard to this letter or the report, please contact Benjamin Moore at (213) 847-0538.

Q:\PROJECTS\2003\03-053 Sheldon\Phase IIIC\Geotechnical Report\1st Supplemental\Cover Letter.doc

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

March 12, 2020
File No. 03-053
Supplemental Geotechnical Report

SUPPLEMENTAL GEOTECHNICAL REPORT – ADDITIONAL RECOMMENDATIONS FOR CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRACT, LOT FR 325
W.O. E170163B **GED FILE NO. 03-053**

INTRODUCTION

The Geotechnical Engineering Division (GED) is providing this report to offer supplemental recommendations for the subject project based on discussions with the Los Angeles Department of Recreation and Parks (RAP) and Bureau of Engineering, Architectural Division. The recommendations presented herein are supplemental to the recommendations of the previous reports dated August 27, 2004, and June 11, 2019, approved by the Los Angeles Department of Building and Safety (LADBS) on October 19, 2004 under Log Number 45346, and August 7, 2019 under Log Number 109182, respectively. Other reports have been issued for the development of other portions the park, but are not applicable to the recommendations of this supplemental report. All recommendations of the previous reports shall apply except as specifically modified herein.

BACKGROUND

The project site is within a designated Methane Gas Mitigation Zone and the proposed scope for this portion of the park development includes a structure intended for use as a combined restroom, office, and/or storage facility. The previous report dated June 11, 2019 was issued based on the assumption that the structure would have a raised floor foundation and qualify for exception to Table 71 under Part 91.7104.3.2 of the Methane Ordinance. GED has since been advised by the project team that a raised foundation will not be utilized. Therefore, to meet the requirements of the Methane Ordinance, a site methane study has been performed. This report provides additional recommendations to accommodate methane mitigation elements based on the results of the methane study.

GED has also been advised that the proposed building will be a California State-approved pre-fabricated structure with an integrated slab-on-grade foundation that can be placed on a prepared pad. This report provides additional recommendations for site earthwork and support of this foundation system.

At the request of the design team, this report also provides additional clarification for the design and support of non-asphaltic parking areas, new light poles, as well as the application of recommendations in this and previous reports to miscellaneous improvements.

METHANE STUDY

At the direction of GED, our consultant, Kleinfelder West, Inc. (Kleinfelder) performed a methane study at the project site in accordance with the requirements of LADBS Information Bulletin P/BC 2014-101. As the building is located on a very large site, the investigation site area was determined based on a 100-foot perimeter around an assumed 27-foot by 40-foot structure, resulting in an investigation site area of about 55,000 square feet. There are no proposed paved areas of 5,000 square feet or larger in size within 15 feet of the walls of the new structure. Groundwater is more than 50 feet below ground surface.

Six shallow gas tests were conducted at depths of 4 to 5 feet below the ground surface. After the results of the shallow gas tests, three of the shallow test locations were converted to deeper gas probe sets with testing at 7, 12, and 22 feet below ground surface.

All of the testing indicated non-detect methane concentrations (less than 0.1 percent) and differential pressure of 0.05 inches of water or less. Based on these results, the methane Site Design Level is designated as Level 2 with methane pressure of less than 2 inches of water. A copy of the Form 1 Certification and the results of the methane testing are attached.

RECOMMENDATIONS

1.0 Slab on Grade Foundation

As noted earlier, the proposed building will be a California state-approved pre-fabricated structure with an integrated slab-on-grade foundation to be supported on a prepared graded pad. The pad shall bear a minimum depth of 12 inches below lowest adjacent grade.

The pad shall be prepared by overexcavation to a minimum depth of 3 feet below the proposed pad bearing grade. The overexcavation shall be deepened to remove uncertified fill or unsuitable materials. Based on the previous subsurface investigation, the depth of uncertified fill is anticipated to be about 5 feet below current surface in the area of the new pad. The overexcavation shall extend beyond the edge of the pad a lateral distance equal to the depth of overexcavation or a minimum of 3 feet.

The bottom of overexcavation shall be prepared per the recommendations of the June 11, 2019 report including scarification and compaction. Fill shall be placed and compacted per the recommendations of the previous report including a minimum 90 percent relative compaction for soils with more than 15% clay content and 95 percent relative compaction for soils with less than 15% clay content. The upper 3 feet of fill below the building pad shall consist of soils meeting the requirements of imported fill presented in the June 11, 2019 report or Crushed Miscellaneous Base (CMB) meeting the requirements of the 2007 Standard Specifications for Public Works Construction (SSPWC or Greenbook) compacted to a minimum 95% relative compaction.

This prepared pad will support an allowable bearing pressure of 2,000 pounds per square foot (psf). A one-third increase may be used for short term loading conditions such as wind or seismic forces. Resistance to lateral loads can be provided by friction

acting at the base of foundations and passive earth pressure. A coefficient of friction of 0.40 may be assumed with dead load forces. An allowable passive pressure of 350 psf per foot of depth may be used for sides of the slab foundation placed against compacted fill soils. This passive pressure shall be neglected for the upper 6 inches below surface when there is landscaping adjacent to the building. Total static settlement of the slab on grade foundation supported on a pad prepared per these recommendations should not exceed ½ inch. Differential settlement over a span of 30 feet is anticipated to be one-half of this value.

2.0 Parking Area Over Landfill

The June 11, 2019 report included recommendations that parking areas extending over the former landfill use an alternative parking surface rather than asphalt or rigid pavement due to the potential for long-term settlement.

GED is providing additional recommendations for parking areas over the limits of the former landfill. These areas shall be overexcavated to a depth of 18 inches below final grade. If the parking area is designed for a Traffic Index of 3 or less, this overexcavation may be reduced to a depth of 12 inches below final grade. Additional excavation may be needed to remove unsuitable materials, but removal of all uncertified fill will not be required per the approved Request for Modification #26633 dated August 7, 2019.

After excavation, the subgrade shall be sloped a minimum of 2 percent away from the landfill limits and prepared by scarification to a depth of 6 inches and compacted to a minimum 90% relative compaction.

Backfill in this area shall consist of CMB material meeting the requirements of the 2007 Greenbook compacted to a minimum 95% relative compaction. The surface over the compacted CMB may consist of a geogrid-based cellular paving system such as GravelPave, Gravelpave2, GeoGrid, HEXPave, or similar system selected by the designer. The system shall be installed and maintained per manufacturer's recommendations. The final surface shall be sloped at a minimum 2 percent away from the landfill area.

3.0 Light Poles and Other Pile Foundations

New light poles and minor structural improvements located outside of the former landfill limits may be supported by shallow foundations bearing on compacted fill or native soils prepared per the recommendations of the previous report. Alternatively, these improvements may be supported on piles bearing in native soils per the recommendations provided here.

Vertical pile capacity shall be developed by side friction in natural soils, estimated at a depth of about 5 feet below current grade for much of the project site. Recommended vertical pile capacities for piles extending to 10 feet below ground surface are provided in Table 1. These capacities include a factor of safety of 2. A downdrag load equal to the value in Table 1 shall be added to the vertical load on the pile to account for downdrag effects of settlement of the shallow uncertified fill soils. If uncertified soils are not present in the area or if the uncertified soils are overexcavated and compacted

around the pile foundation, the indicated downdrag load value may be counted as part of the vertical capacity rather than as part of the vertical burden load. The upward pile capacities may be considered to be equal to one-half of the vertical capacity plus the weight of the pile. When considering wind or seismic loads, the capacity may be increased by one-third.

Table 1: Pile Capacity

Pile Diameter (inch)	Vertical Capacity 10 ft below surface (kip)	Vertical Capacity per additional foot (kip)	Downdrag Load (kip)
12	1.8	0.5	1.3
18	2.8	0.8	1.9
24	3.7	1.0	2.5

Pile installation shall be observed by a representative of GED to confirm that anticipated fill depths and soil conditions are encountered. If deeper uncertified fill is encountered in some areas, piles shall be deepened as needed to develop adequate capacity.

Pile lateral loads may be resisted by an allowable passive pressure on the piles equal to 250 pounds per square foot per foot of depth, applicable against native soils assumed at a depth of 5 feet below the current ground surface. The passive resistance for piles may also include a nominal resistance of 100 psf in the shallow fill materials. This recommendation is dependent on the approval of a Request for Modification to utilize this capacity in the uncertified fill material.

The passive pressure may be doubled for piles spaced at least 3 diameters on center. Lateral capacity for loads parallel to a line of piles placed less than 8 diameters on center shall be multiplied by the P-multiplier reduction factors in Table 2 based on the pile spacing.

Table 2: Lateral Capacity Reduction Along Pile Line

Center-To-Center Spacing	P-Multiplier		
	Row 1	Row 2	Row 3
2 diameters	0.6	0.35	0.25
3 diameters	0.75	0.55	0.4
5 diameters	1.0	0.85	0.7
7 diameters	1.0	1.0	0.9

4.0 Other Improvements

Outside of the landfill area, non-structural improvements may be designed per the recommendations of the previous report for Planter and Fence Wall and Non-Structural Foundations. Structural improvements outside of the landfill area may be designed per the recommendations of the previous June 11, 2019 report for shallow structure foundations or the recommendations for pile foundations in this report.

The only anticipated improvements within the landfill area include minor grading, baseball backstop foundations as discussed in the June 11, 2019 report, and the parking area as discussed in this report. Any other improvements within the landfill area would require additional recommendations.

CLOSURE

If you have any questions about this report, please contact Benjamin Moore at (213) 847-0538.



Benjamin Moore, GE 2858
Geotechnical Engineer II

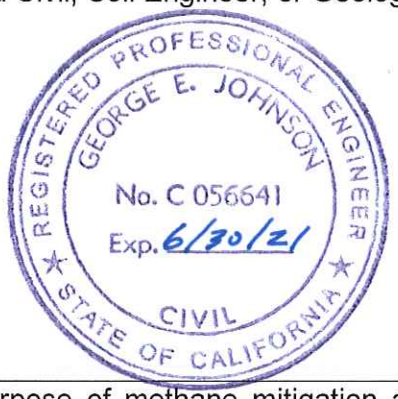
Attached:
Copy of Methane Investigation and Form 1 Certification

Q:\PROJECTS\2003\03-053 Sheldon\Phase IIIC\Geotechnical Report\1st Supplemental\Supplemental Report- DRAFT.doc

FORM 1 – CERTIFICATION OF COMPLIANCE FOR METHANE TEST DATA

Part 1: Certification Sheet

Site: Sheldon Arleta Park Phase IIIC
Address: 12455 West Wicks Street, Los Angeles (Sun Valley), California
Legal Description: Tract: 14157, Lot 5
Building Use: Rest Room\Office\Storage Facility

Name of Architect, Engineer, or Geologist:	Registered Civil, Soil Engineer, or Geologist Stamp:
George E. Johnson, PE Kleinfelder, West, Inc. 620 South Magnolia Avenue, 'G' Ontario, CA 91762 City Test Lab License #: TA23149 Telephone: (909) 657-1716	

I hereby certify that I have tested the above site for the purpose of methane mitigation and that all procedures were conducted by a City of Los Angeles licensed testing agency in conformity with the requirements of the LADBS Information Bulletin P/BC 2014-101. Where inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer or geologist whose signature is affixed thereon.

Signed: _____ date 11/19/19

Required Data:

- Project is in the ***Methane Zone***.
- Depth to groundwater observed during testing: **>26** feet below the impervious Membrane.
- Depth to Historical High Ground Water Table Elevation*: **150** feet below the impervious membrane.
- Design Methane Concentration**: **<1,000** parts per million in volume (ppmv)
- Design Methane Pressure***: **0.05** inches of water column.
- Site Design Level: **II , ≤2** inches of pressure

De-watering:

- De-watering is **not** required per Section 91.7104.3.7.
- Pump discharge rate **N/A** gallons per minute

Latest Grading on Site:

- Date of last grading on site **was** more than 30 days before Site Testing.
- See Attached explanation of the effect on soil gas survey results by grading operations **N/A** .

Notes:

* Historical High Ground Water Table Elevation shall mean the highest recorded elevation of ground water table based on historical records and field investigations as determined by the engineer for the methane mitigation system.

** Design Methane Concentration shall mean the highest recorded methane concentration from either Shallow Soil Gas Test or any Gas Probe Set on the site.

*** Design Methane Pressure shall mean the highest total pressure measured from any Gas Probe Set on the Site.

Shallow Soil Vapor Probe Screening Data
12455 West Wicks Street
Los Angeles (Sun Valley), California

Date	Time	Probe Number	Approximate Probe Depth (feet bgs)	Methane Concentration Landtec GEM 5000 (%)	Differential Pressure (inches water column)	Description/Probe Location
11/07/19	13:35	P-1	4	ND (<0.1)	0.02	See Site Plan
11/07/19	13:40	P-2	5	ND (<0.1)	0.02	See Site Plan
11/07/19	13:45	P-5	4.5	ND (<0.1)	0.03	See Site Plan
11/07/19	14:20	P-6	5	ND (<0.1)	0.02	See Site Plan
11/07/19	14:25	P-4	5	ND (<0.1)	0.03	See Site Plan
11/08/19	7:20	P-3	5	ND (<0.1)	0.04	See Site Plan

Notes:
bgs - Below ground surface
ND - Not detected at the instrument detection limit, which is shown in parentheses
% - percent

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Nested Soil Vapor Probe Screening Data
12455 West Wicks Street
Los Angeles (Sun Valley), California

Date	Time	Probe Number	Approximate Probe Depth (feet bgs)	Methane Concentration Landtec GEM 5000 (%)	Differential Pressure (inches water column)	Description/Probe Location
11/12/19	8:50	P-1	7	ND (<0.1)	-0.03	See Site Plan
	8:57		12	ND (<0.1)	-0.03	
	9:05		22	ND (<0.1)	0.01	
11/12/19	9:13	P-4	7	ND (<0.1)	0.05	See Site Plan
	9:17		12	ND (<0.1)	-0.01	
	9:22		22	ND (<0.1)	0.01	
11/12/19	9:27	P-5	7	ND (<0.1)	0.02	See Site Plan
	9:35		12	ND (<0.1)	0.02	
	9:40		22	ND (<0.1)	0.02	
11/13/19	8:40	P-1	7	ND (<0.1)	-0.02	See Site Plan
	8:47		12	ND (<0.1)	-0.01	
	8:55		22	ND (<0.1)	0.01	
11/13/19	9:10	P-4	7	ND (<0.1)	0.02	See Site Plan
	9:15		12	ND (<0.1)	0.01	
	9:22		22	ND (<0.1)	0.01	
11/13/19	9:30	P-5	7	ND (<0.1)	0.02	See Site Plan
	9:36		12	ND (<0.1)	0.02	
	9:45		22	ND (<0.1)	0.02	

Notes:
bgs - below ground surface
ND - Not detected at the instrument detection limit, which is shown in parentheses
% - percent
Landtec GEM 5000 was used to take differential pressure readings

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100 50 0 100

APPROXIMATE SCALE (feet)

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

EXPLANATION

P-□ APPROXIMATE SHALLOW SOIL VAPOR PROBE LOCATION

P-5 APPROXIMATE NESTED MULTI-DEPTH SOIL VAPOR PROBE LOCATION

KLEINFELDER
Bright People. Right Solutions.

PROJECT:	20190264
DRAWN:	DMF
CHECKED:	GEJ
DATE:	11/2019
REVISED:	11/2019

SITE MAP

Sheldon Arleta Park Phase IIIC
Methane Survey
12455 West Wicks Street
Los Angeles, California

FIGURE

1

CAD FILE: U:\Projects\CADD\CADD 2019\20190264\Sheldon-Arleta\Methane-Survey\20190264_Sheldon-Arleta.dwg LAYOUT: 1 PLOTTED: 11/19/2019 5:19 PM BY: dean fahrney

Table 1A - MITIGATION REQUIREMENTS FOR METHANE ZONE (See notes)

Site Design Level			Level I		Level II		Level III		Level IV		Level V
Design Methane Concentration (ppmv)			0 - 100		101 - 1,000		1,001 - 5,000		5,001 - 12,500		> 12,500
Design Methane Pressure (See note 1) (inches of water column)			≤ 2"	> 2"	≤ 2"	> 2"	≤ 2"	> 2"	≤ 2"	> 2"	All Pressure
PASSIVE SYSTEM	De-watering System		X	X	X	X	X	X	X	X	X
	Sub-Slab Vent System	Perforated Horizontal Pipes	X	X	X	X	X	X	X	X	X
		Gravel Blanket Thickness Under Impervious Membrane	2"	2"	2"	3"	2"	3"	2"	4"	4"
		Gravel Thickness Surrounding Perforated Horizontal Pipes	2"	2"	2"	3"	2"	3"	2"	4"	4"
		Vent Risers	X	X	X	X	X	X	X	X	X
	Impervious Membrane		X	X	X	X	X	X	X	X	X
ACTIVE SYSTEM	Sub-Slab System	Mechanical Extraction System (See note 2)								X	X
	Lowest Occupied Space System	Gas Detection System (See note 3)		X		X	X	X	X	X	X
		Mechanical Ventilation (See Notes 3, 4, 5)		X		X	X	X	X	X	X
		Alarm System		X		X	X	X	X	X	X
	Control Panel			X		X	X	X	X	X	X
MISC. SYSTEM	Trench Dam		X	X	X	X	X	X	X	X	X
	Conduit or Cable Seal Fitting		X	X	X	X	X	X	X	X	X
	Additional Vent Risers (See note 5)										X

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	20190264
DRAWN BY:	DMF
CHECKED BY:	GEJ
DATE:	11/2019
REVISED:	11/2019

METHANE REQUIREMENTS FOR METHANE ZONE

Sheldon Arleta Park Phase IIIC
Methane Survey
12455 West Wicks Street
Los Angeles, California

FIGURE
2

PLOTTED: 11/14/2019 1:54 PM BY: dean fahmey
CAD FILE: U:\Projects\CADD\CADD 2019\20190264\Sheldon-Arleta\Methane-Survey\20190264_Sheldon-Arleta.dwg

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

VAN AMBATIELOS
PRESIDENT

JAVIER NUNEZ
VICE PRESIDENT

JOSELYN GEAGA-ROSENTHAL
GEORGE HOVAGUIMIAN
ELVIN W. MOON

CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

SOILS REPORT APPROVAL LETTER

April 9, 2020

LOG # 112671
SOILS/GEOLOGY FILE - 2

Architectural Division
1149 S. Broadway, Suite 800
Los Angeles, CA 90015

TRACT: 14137 // The Maclay Rancho (MR 37-5/16)
LOT(S): 1-5 // Fr 325
LOCATION: 12455 W. Wicks St. // 12600 W. Sheldon St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Supplemental Report	03-053	03/12/2020	City of LA - GED

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Approval Letter	109182	08/07/2019	LADBS
Request for Modification	26633	08/07/2019	LADBS
Update Report	03-053	06/11/2019	City of LA – GED
Dept. Approval Letter	83272	02/28/2014	LADBS
Soils Report	03-053	02/11/2014	City of LA - GEO
Soils Report	03-053	02/07/2014	City of LA - GEO
Dept. Approval Letter	75610R	12/21/2011	LADBS
Soils Report	W.O. E1700618	12/13/2011	Geotech. Eng. Group (GEO)
Soils Report	W.O. E1700618	11/10/2011	Geotech. Eng. Group (GEO)
Dept. Approval Letter	45346	10/19/2004	LADBS
Soil Report	--	08/27/2004	GED

The Grading Division of the Department of Building and Safety has reviewed the referenced supplemental report that provides supplemental recommendations including revising the restroom/office/storage facility from a raised floor foundation to an integrated slab-on-grade foundation to be supported on a prepared graded pad, as described on page 2 of the 03/12/2020 report. In addition, clarifications are provided and include those for the design and support of non-asphaltic parking areas and new light poles, as described on pages 1 to 5 of the 03/12/2020 report.

The Department previously conditionally approved the above referenced update report dated 06/11/2019 and associated Request for Modification for the design and construction of the proposed Cezar Chavez Park (Sheldon Arleta Landfill) Phase IIIC project in a letter dated

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

08/07/2019, Log #109182. The project consisted of improvements at the south side of the park along Wicks Street, as described on pages 2 & 3 of the 06/11/2019 report. The improvements included a new restroom/office facility, parking lot, basketball court, children's play area, and a baseball field with a backstop, as shown on Figures 2A and 2B in the 06/11/2019 report. Per the consultants, most of the improvements would be located outside of the landfill area with the exception of the parking lot, which will partially extend over the landfill area, and the baseball field and backstop that will be located within the landfill area. The consultants recommended to support the proposed structure(s) on conventional foundations bearing on properly placed fill a minimum of 3 feet thick below the bottom of the footings. According to the consultants, for improvements outside the limits of the landfill, all existing fill within the proposed building or other structural foundations shall be over-excavated to suitable undisturbed natural soil and replaced with compacted fill (see pgs. 9 & 10 in the 06/11/2019 report). A Request for Modification (RFM) to allow existing uncertified fill for support of concrete slabs and new fill for the proposed basketball court, parking lot, and areas below non-structural planter and fence walls, as described on page 10 of the 06/11/2019 report, was approved by the Department (Mod # 26633, dated 08/07/2019).

Prior to that, the Department conditionally approved the above referenced reports for the proposed improvements in the above referenced letters (see pgs. 8 & 9 in the 06/11/2019 report).

The earth materials at the subsurface exploration locations consist of up to 7 feet of uncertified fill underlain by native soils. Per the consultants, groundwater was not encountered to the maximum depths explored of 51.5 feet, and historically highest groundwater level is between 140 and 150 feet below the surface.

The consultants recommend to support the proposed structure(s) on conventional foundations bearing on native undisturbed soils or properly placed fill a minimum of 3 feet thick, or alternatively the improvements may be supported on drilled-pile foundations bearing in native undisturbed soils.

As of January 1, 2020, the City of Los Angeles has adopted the new 2020 Los Angeles Building Code (LABC). The 2020 LABC requirements will apply to all projects where the permit application submittal date is after January 1, 2020.

The referenced 03/12/2020 supplemental report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. In the event that the permit application submittal date is after January 1, 2020, a supplemental report shall be provided to update the recommendations to be in conformance to the 2020 LABC.

2. All conditions of the above referenced Department approval letter dated 08/07/2019, Log #109182 shall apply except as specifically modified herein.

3. All the latest recommendations of the report(s) that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

4. All foundations shall derive entire support from native undisturbed soils or properly placed fill (a minimum of 3 feet thick), as recommended and approved by the soils engineer by inspection.

5. Pile caisson and/or isolated foundation ties are required by LAMC Sections 91.1809.13 and/or 91.1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2014-030.

6. When water is present in drilled pile holes, the concrete shall be tremied from the bottom up to ensure minimum segregation of the mix and negligible turbulence of the water (1808.8.3).

7. Existing uncertified fill shall not be used for lateral support of deep foundations (1810.2.1).

   Note: A Request for Modification with justification may be filed, for consideration by the Department, to allow limited passive resistance for the pile foundations within the existing uncertified fill (see pg. 4 of the 03/12/2020 report).

8. Slabs placed on approved compacted fill shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

9. All friction pile or caisson drilling and excavations shall be performed under the inspection and approval of the soils engineer. The soils engineer shall indicate the distance that friction piles or caissons penetrate into competent native soils in a written field memorandum. (1803.5.5, 1705.1.2)

GLEN RAAD
Geotechnical Engineer I

Log No. 112671
213-482-0480

cc: City of LA - GED, Project Consultant
VN District Office

MOD #27151

REQUEST FOR MODIFICATION OF BUILDING ORDINANCES

CITY LA DBS DEPARTMENT OF BUILDING AND SAFETY

UNDER AUTHORITY OF L.A.M.C, SECTION 98.0403

5/8/2020

PERMIT APP. #: —	**DATE:** 04/14/2020	**For City Dept. Use Only** Building Zoning Grading Shoring Mech. Elec. Plumb. Green D.A. Misc.
JOB ADDRESS: 12455 W. Wicks St; 12600 W Sheldon St		
Tract: 14137; The Maclay Rancho (MR 37-5/16)	**Block:** **Lot:** 1-5, FR 325	
Owner: City of Los Angeles, Bureau of Engineering, Architectural Division	**Petitioner:** City of Los Angeles, BOE, Geotechnical Engineering Division	
Address: 1149 S Broadway, Suite 800	**Address:** 1149 S Broadway, Ste 120 (MS 495)	
City: Los Angeles; State: CA; Zip: 90015; Phone: (213) 485-1646	City: Los Angeles; State: CA; Zip: 90015; Phone: (213) 847-0538	

REQUEST (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY) — **CODE SECTIONS:** 1810.2.1

Allow assumption of nominal value of 100 pcf for passive pressure resistance in uncertified fill for design of pile foundation system.

JUSTIFICATION (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY)

GED feels that the existing uncertified fill material may be assumed to provide passive pressure of 100pcf for a deep foundation system. Uncertified fill will not be used for any vertical support.

See supplemental report dated March 12, 2020, approved under Log Number 112671.

Benjamin Moore (Owner/Petitioner Name (Print)) — (Signature) — Geotechnical Engineer II (Position)

benjamin.moore@lacity.org

FOR CITY DEPARTMENT'S USE ONLY BELOW THIS LINE

Concurrences required from the following Department(s)			Approved	Denied
☐ Los Angeles Fire Department	Print Name	Sign	☐	☐
☐ Public Works Bureau of Engineering	Print Name	Sign	☐	☐
☐ Department of City Planning	Print Name	Sign	☐	☐
☐ Department of County Health	Print Name	Sign	☐	☐
☐ Other _____	Print Name	Sign	☐	☐

DEPARTMENT ACTION

☑ GRANTED ☐ DENIED

Glen Rand — Reviewed by: (Staff) (Print) — Sign — 5-8-2020 Date

Daniel C. Schneiderei + Daniel C Schneider — Action taken by: (Supervisor) (Print) — Sign — 5-8-20 Date

NOTE: ~~IN CASE OF DENIAL, SEE PAGE #2 OF THIS FORM FOR APPEAL PROCEDURES~~

CONDITIONS OF APPROVAL (~~Continued on Page 2~~):

All conditions of the Department approval letter dated 4-9-2020, Log #112671 shall apply.

For Cashiers Use Only
(PROCESS ONLY WHEN FEES ARE VERIFIED)

LA Department of Building and Safety
LA MANN 108010719 5/15/20
20 1:02:23 PM
BOARD APPLIC FEE
$130.00
SYSTEMS DEV SURCH
$7.80
DEV SERV CENTER SURCH
$3.90
RESEARCH FEE
$208.00
SYSTEMS DEV SURCH
$12.48
DEV SERV CENTER SURCH
$6.24

FEES (DEPARTMENT USE ONLY)

Appeal Processing Fee.. (No. of Items) =	1	X $130 + $39/addl	= 130
Inspection Fee ..... (No of Insp.) =		X $ 84.00	= —
Research Fee ... (Total Hours Worked) =	2	X $104.00	= 208
Subtotal			= 338
Development Services Center Surcharge		X 3%	= 10.14
Systems Development Surcharge		X 6%	= 20.28
Total Fees			= 368.42

Fees verified by:

Print and Sign Glen Rand

27675

REQUEST FOR MODIFICATION OF BUILDING ORDINANCES

LA DBS — DEPARTMENT OF BUILDING AND SAFETY

UNDER AUTHORITY OF L.A.M.C. SECTION 98.0403

GRADING

PERMIT APP. #: —	DATE: April 28, 2021
JOB ADDRESS: 12455 W Wicks St; 12600 W Sheldon St	
Tract: 14137; The Maclay Rancho Tract (MR 37-5/16)	Block: N/A Lot: 1-5; FR 325
Owner: City of Los Angeles, DPW, BOE, Architectural Division	Petitioner: City of Los Angeles, DPW, BOE, Geotechnical Engineering Group
Address: 1149 S Broadway, 8th Floor	Address: 1149 S Broadway, Ste 120 (MS 495)
City: Los Angeles, CA 90015 State Zip Phone: (213) 485-1646	City: Los Angeles, CA 90015 State Zip Phone: (213) 847-0538
REQUEST (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY)	CODE SECTIONS: 1809.2 , 7011.3

Allow placement of certified fill for support of bleacher mat foundation over uncertified fill and landfill deposits.

JUSTIFICATION (SUBMIT PLANS OR ADDITIONAL SHEETS AS NECESSARY)

See concurrent April 8, 2021 report. New certified fill will support lightly-loaded open-air bleachers. The exisiting uncertified fill shows high relative compaction. Settlement due to the landfill has been estimated at a maximum of 2 inches per year. Mat foundation and bleachers will be re-leveled and maintained as needed during service life. Acknowledgement of potential settlement due to landfill materials dated April 28, 2021 is also provided with soils report.

Benjamin Moore — Owner/Petitioner Name (Print)

Benjamin Moore — (Signature) — Digitally signed by Benjamin Moore Date: 2021.05.04 08:29:23-07'00'

Geotechnical Eng II — Position

Benjamin.Moore@lacity.org

FOR CITY DEPARTMENT'S USE ONLY BELOW THIS LINE

Concurrences required from the following Department(s)		Approved	Denied
☐ Los Angeles Fire Department	Print Name ____ Sign ____	☐	☐
☐ Public Works Bureau of Engineering	Print Name ____ Sign ____	☐	☐
☐ Department of City Planning	Print Name ____ Sign ____	☐	☐
☐ Department of County Health	Print Name ____ Sign ____	☐	☐
☐ Other ____	Print Name ____ Sign ____	☐	☐

DEPARTMENT ACTION

☑ GRANTED ~~☐ DENIED~~

Glen Read — Reviewed by: (Staff) (print) — Sign — 05/26/2021 Date

J. Adolfo Acosta — Action taken by: (Supervisor) (print) — Sign — 5/26/2021 Date

~~NOTE: IN CASE OF DENIAL, SEE PAGE #2 OF THIS FORM FOR APPEAL PROCEDURES~~

CONDITIONS OF APPROVAL (~~Continued on Page 2~~):

All conditions of the Department approval letter dated 05/26/2021, Log #117286, shall apply.

FEES

Appeal Processing Fee.. (No. of Items) =	1	$130 + $39/addl	= 130.00
Inspection Fee ..... (No of Insp.) =		X $ 84.00	= —
Research Fee ... (Total Hours Worked) =		X $104.00	= 208.00
Subtotal			= 338.00
Surcharge (One Stop)		X 3%	= 10.14
Surcharge (Systems Development)		X 6%	= 20.28
Total Fees			= 368.42

Fees verified by:

Print and Sign: Mi Lay — Mi Lay 4/28/21

For Cashiers Use Only
(PROCESS ONLY WHEN FEES ARE VERIFIED)

Los Angeles Department of Building and Safety
Metro 4th Floor 05/04/2021 3:08:30 PM
User ID: athomas
Receipt Ref Nbr: 2021124001-109
Transaction ID: 2021124001-109-1
BOARD APPLIC FEE $130.00
SYSTEMS DEV SURCH $20.28
DEV SERV CENTER SURCH $10.14
RESEARCH FEE $208.00
Amount Paid: $368.42
Request Date: 4/28/2021
PCIS Number: N/A
Comments: 12455 W WICKS ST / 12600 W SHELDON ST

Los Angeles Dept of Building and Safety
201 N. Figueroa St., 4th Floor
Los Angeles, CA 90012

Reference Number: 2021124001-109
Date/Time: 05/04/2021 3:08:30 PM PST

User ID: athomas

MODIFICATION BOARD APPEAL
2021124001-109-1
Request Date: 4/28/2021
PCIS Number: N/A
Comments: 12455 W WICKS ST / 12600 W SHELD ON ST

BOARD APPLIC FEE	$130.00
SYSTEMS DEV SURCH	$20.28
DEV SERV CENTER SURCH	$10.14
RESEARCH FEE	$208.00
Total:	$368.42

LADBS IDO
2021124001-109-2
Comments: BEN MOORE (213) 847-0538
LADBS IDO PAYMENT
Document Dept Code: 50
IDO Document ID: ID1943K0006
Available Amount: 12845.48
Amount Applied: -368.42

Amount:	($368.42)
Total:	($368.42)

2 ITEMS TOTAL:	$0.00
TOTAL:	$0.00
Total Received:	$0.00



CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

April 8, 2021
File No. 03-053
2nd Supplemental Geotechnical Report

2ND SUPPLEMENTAL GEOTECHNICAL REPORT – SUPPORT FOR BLEACHERS AT CESAR CHAVEZ PARK (SHELDON ARLETA LANDFILL) PHASE IIIC, 12455 WEST WICKS STREET, TRACT 14137, LOTS 1-5; 12600 W SHELDON STREET, THE MACLAY RANCHO TRACT, LOT FR 325
W.O. E170163B GED FILE NO. 03-053

1.0 INTRODUCTION

The Geotechnical Engineering Division (GED) is providing this report to offer supplemental recommendations for the subject project based on discussions with the project team at the Los Angeles Bureau of Engineering, Architectural Division. The recommendations presented herein are supplemental to the recommendations of the previous reports dated August 27, 2004, February 11, 2014, June 11, 2019, and March 12, 2020, approved by the Los Angeles Department of Building and Safety (LADBS) on October 19, 2004 under Log Number 45346, February 28, 2014 under Log Number 83272, August 7, 2019 under Log Number 109182, and April 9, 2020 under Log Number 112671, respectively. Other reports have been issued for the development of other portions of the park, but are not applicable to the recommendations of this report and not referenced herein. All recommendations of the previous reports shall apply except as specifically modified herein.

The recommendations of this report also use the results of previous investigations and analyses from various reports that have been prepared for the project but have not been submitted to LADBS. The contents and use of these previous investigations are discussed in later sections of this report and relevant portions of the referenced reports are included in Appendices A and B. GED has reviewed these reports and takes responsibility, as Engineer of Record, for their use in the developing the recommendations herein.

1.1 BACKGROUND

The current project is part of the ongoing development of a park facility at the site of a former landfill that has been closed and covered with a landfill cap. The majority of the improvements for the current phase of park development are located on the southern portion of the site outside the limits of the former landfill. Previous reports included recommendations for support of these improvements and for some elements that extend into the limits of the former landfill including portions of the new parking lot and backstops for a new baseball field. The recommendations for foundations for the baseball backstops were provided in the approved February 11, 2014 report and confirmed in the approved June 11, 2019 report.

The baseball field development includes small bleachers. These bleachers were

previously intended to be installed outside the scope of the current project. However, the project team has determined to include the bleachers under the current work, and has requested recommendations for their design and construction. A vicinity map of the project area is provided in Figure 1. The location of the bleachers is shown in Figure 2, adapted from Plate 3 of the February 11, 2014 report. As shown in Figure 2, the new bleachers are within the limits of the landfill per the August 2004 report. The bleachers are a light-weight steel frame structure about 21 feet by 9.5 feet in plan with five rows of seating.

Per discussions between members of the project team and Plan Check reviewers at LADBS, the bleachers, though they do not include walls or a roof, would be considered as structures. A Request for Modification is filed concurrently to allow bearing of the bleacher foundations within the cap over the landfill as discussed in this report.

2.0 EVALUATION

2.1 Landfill History

The area of Cesar Chavez Park, bounded by Sheldon Street, Wicks Street, Arleta Avenue, and Sharp Avenue was previously operated as a sand and gravel quarry. The area was acquired by the City of Los Angeles in 1962, and operated as a Class III sanitary landfill until 1974, receiving about 3 million tons of residential and commercial waste. The thickness of the waste ranged up to 176 feet. The limits of the landfill were not clearly documented, but were explored and estimated in the previous August 2004 report.

The landfill was closed by placement of a soil cap of variable thickness consisting of lean clay, silty clay and some silty or clayey sand materials. The cover depth of the landfill cap was explored in a June 1998 report by the Department of General Services, Standards Division. A copy of this report is presented in Appendix A. The exploration advanced 36 borings in and around the landfill area at the project site. The location of landfill cap investigation borings, BH-5, BH-6, BH-9 and BH-10 near the proposed bleachers are shown on Figure 3 of this report. The 1998 report did not provide logs of the borings that were advanced, but the summary Table 1 of the 1998 report shows a landfill cap thickness of 25 feet at BH-9 and 15 feet at BH-10. Borings BH-5 and BH-6 were apparently located outside the limits of the landfill and did not encounter landfill waste.

3.0 Landfill Settlement

The landfill area is subject to ongoing settlement due to the decomposition and consolidation of the waste. A settlement evaluation of the landfill cap was conducted in August 27, 2002 and a copy of the report addressing settlement measurements and estimates of future settlement are provided in Appendix B. The report found an average settlement of 1.6 feet between 1996 and 2002 and a maximum settlement of 4.4 feet over the same time period. The settlement report referenced the same boring locations used in the 1998 report discussed above. In the area of the bleachers, boring BH-9 and BH-10 show settlement of 2 feet and 2.65 feet, respectively per Table 2 of the 2002 report. Settlement was not recorded at borings BH-5 and BH-6, outside the limits of the landfill. The report also recommends a calculation to determine future

settlement based on an equation for secondary consolidation. Considering that the landfill has been closed for about 47 years and is likely undergoing settlement similar to secondary consolidation, we consider the calculation provided in the 2002 settlement evaluation to be a reasonable method to approximate future settlement. The calculation in the report assumes 1984 as the approximate start of secondary consolidation.

Settlement of the landfill was also estimated in Section 2.3 of the approved August 27, 2004 report, and summarized in Tables 1A and 1B of that report. The settlement was estimated at locations of borings drilled for the 2004 investigation and settlement markers installed and measured during that time. The locations of settlement markers near the bleachers, SM-1 and SM-3, are included on Figure 3. Using the calculation of the 2002 report, the 2 feet of settlement attributed to BH-9 estimates 0.25 feet of annual settlement in 2004 compared to the 0.17 feet of annualized settlement calculated for SM-3 at approximately the same location. A calculation for BH-10 estimates 0.34 feet of settlement compared to the 0.28 feet of annualized settlement calculated for the nearby SM-1 in the 2004 report. It is noted that using a base year of 1990 with the calculation in the 2002 report indicates settlement of 0.21 feet and 0.28 feet of settlement for the 2004 year, closer to the findings in the 2004 report. For conservatism, a base year of 1984 is used when calculating future settlement for the purpose of this report.

Given that the calculation of the 2002 report appears to be conservative relative to more recent readings, it has been used to estimate settlement since the 2014 report, discussed in the next Section, and to estimate future settlement of the bleachers. By this method, future settlement near BH-10 or SM-1 due to decomposition and consolidation of the landfill materials is estimated at up to 2 inches per year between 2021 and 2026. Given the variability of the landfill materials, differential settlement due to decomposition and consolidation may be anticipated at up to 2/3rds of the total settlement, or 1.3 inches per year. Both total and differential settlement would be expected to slowly decrease over time.

Pages from the August 2004 report and settlement calculations are presented in Appendix C.

4.0 Landfill Cap Parameters

The shallow surface soils in the area of the proposed bleachers was explored as part of the previously-approved February 11, 2014 report for the baseball backstops, including advancement of 7 borings, BB-1 through BB-7. The locations of these borings are shown on Figure 2 and logs of these borings are reproduced in Appendix D.

Though shown within the limits of the landfill per the 2004 report, borings BB-6 and BB-7 both encountered native material at depths of 8 and 9 feet respectively. This indicates that the area of the southern bleachers may correspond to the area of a terrace, an access road within the landfill while it was being excavated or backfilled or a steeply sloping landfill side. Since the boundaries of the landfill are not clearly known beyond these borings, this report assumes that at least some portion of the southern bleachers may be located over the landfill or deeper native material. Borings BB-2 and BB-5 identified landfill trash as shallow as 9 feet below surface, indicating a cap thickness less than the 15 feet minimum identified in June 1998 report of Appendix A.

Dry density values determined for samples collected from borings BB-1 through BB-7 were compared to a maximum dry density to evaluate the relative compaction of the surface soils. Relatively granular SC, SM, or SP soils in borings BB-1, BB-2, BB-3, BB-6, and deeper soils in BB-7 were compared to a maximum dry density of 130 pounds per cubic foot (pcf) per a laboratory test on similar soils in the investigation of the June 11, 2019 report. Clayey soils in BB-4, BB-5, and shallow soils of BB-7 were compared to a lower maximum density of 125 pcf. The results are summarized in Table 3.1.

Table 3.1: Relative Compaction of Boring Samples

Boring	Depth (ft) bgs	Dry Density (pcf)	Relative Compaction (%)
BB-1	5	129	99%
	10	114	88%
BB-2	5	123	95%
BB-3	5	125	96%
	10	118	91%
BB-4	5	119	95%
	10	110	88%
	15	109	87%
BB-5	5	125	100%
BB-6	5	125	96%
	10	116	89%
BB-7	5	122	98%
	10	122	94%

Per this analysis, the upper soils in the area of the bleachers were apparently compacted to at least 95% relative compaction. Deeper materials generally show compaction near 90 percent. The boring logs also indicate a distinct color change at about 7 feet below grade. These results indicate that the upper landfill cap soils were effectively compacted. A regrading of the landfill cap was referenced in the February 2014 report, but GED does not have records of the compaction of these shallow soils.

Soil strength parameters for the landfill cap in the area of the bleachers are adopted from the approved February 11, 2014 report. Landfill cap soils in the area are identified as silty clayey sand with a dry density of 125 pounds per cubic foot, cohesion of 200 pounds per square foot, and an angle of internal friction of 36 degrees. However, since the investigation and recommendations of the 2014 report, settlement calculations, as discussed in Section 3.0, indicate up to 16 inches of settlement may have occurred in the area. This settlement may have been mitigated by placement of landscape soils in the area without involvement of GED and surface soils may be different than those previously documented.

5.0 Foundation Recommendations

Based on the findings of this and previous reports and discussions with the project design team, the proposed bleachers may be supported on a mat foundation bearing on certified structural fill over the landfill cap. As noted in Section 1.1 of this report, this

will require the approval of a Request for Modification for placement of certified fill over uncertified fills.

The foundations will be subject to significant total and differential settlement over the service life of the bleachers due to decomposition and consolidation of landfill materials, up to about 2 inches per year. The bleacher support shall be designed to accommodate the anticipated settlement with the ability to re-level the structure as needed. This may be done on a limited basis by placing shims or similar supports between the mat foundation and bleacher frame, but may require re-leveling of the mat foundation in case of significant differential settlement. The settlement is expected to occur slowly and so should not present a significant risk of structural damage or collapse with proper maintenance.

The bleachers will require significant maintenance efforts over their service life. This has been communicated to the project owner, the Los Angeles Department of Recreation and Parks. The project manager has provided confirmation of this understanding and commitment to perform regular maintenance as needed. This confirmation will be attached to this report on receipt.

The area of the mat foundations shall be overexcavated to a depth of one foot below the bottom of the mat foundation. Overexcavation shall extend to a minimum distance of 3 feet laterally beyond the edge of the foundation. Requirements for subgrade preparation, fill materials, and fill placement per the June 11, 2019 report, shall apply. The fill shall be compacted to a minimum 90% relative compaction. Fills with less than 15 percent clay (finer than 0.005mm), shall be compacted to a minimum 95% relative compaction.

The mat foundation shall be a minimum 12 inches in thickness and bear a minimum of 18 inches below lowest adjacent grade. The anticipated static settlement will be governed by the bearing pressure as indicated by the following table.

Table 5.1: Mat Foundation Bearing and Settlement

Bearing Pressure (psf)	Predicted Settlement (inch)
500	0.5
1000	0.8
1500	1.2

A 1/3 increase to the bearing values in the table above may be assumed for short term loading conditions such as wind or seismic forces. The bearing pressures given above are net values. An additional 25 psf per foot of depth below 18 inches should be applied to the bearing load to account for concrete replacing the soil. The settlements predicted in the above table are total static settlements, differential static settlements are expected to be on the order of one-half the total settlement. The actual magnitude of total and differential static settlement will be a function of the design and structural stiffness of the mat. The static settlement will be overshadowed by settlement of the underlying landfill debris. The settlement of the landfill debris will be gradual and may reflect the settlement of the baseball fields, backstops, and other nearby features.

A coefficient of vertical subgrade reaction of 50 kips per cubic foot (kcf) for a 1-foot square loaded area may be used for design of the mat.

Lateral loads may be resisted by friction at the bottom of the mat foundation. A coefficient of friction of 0.3 may be used for this purpose. Lateral resistance may also be provided by passive pressure from the sides of the foundation bearing against certified structural fill. An allowable passive lateral earth pressure of 50 psf per foot of depth may be used for sides of the mat poured against compacted fills. This allowable passive pressure is allowable for level ground (5H:1V or flatter) only. The allowable passive pressure may be increased by one-third for lateral loading due to wind or seismic forces.

CLOSURE

If you have any questions about this report, please contact Benjamin Moore at (213) 847-0538.



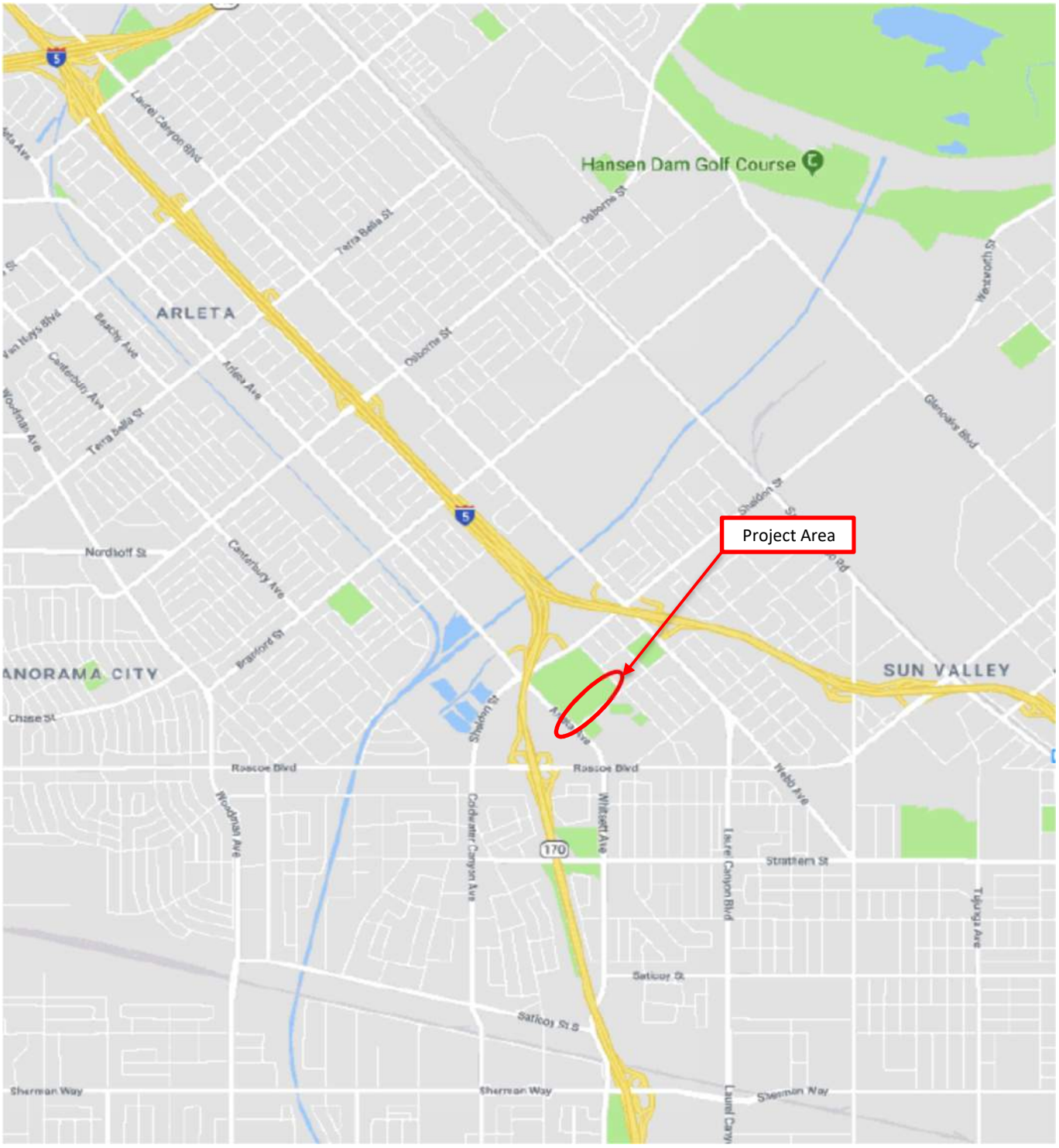
Benjamin Moore, GE 2858
Geotechnical Engineer II

Attached:

- Figure 1 – Vicinity Map
- Figure 2 – Location and Borings
- Figure 3 – Landfill Cap Investigation Locations
- Appendix A
  - Department of General Services, Standards Division, Sheldon-Arleta Landfill Cover Depth Exploration, Lab No. 140-4791, dated June 1998.
- Appendix B
  - SCS Engineers, excerpts from Sheldon-Arleta Landfill Settlement Evaluation and Cost Estimate of Gas System Reconstruction, dated August 27, 2002. Includes Sections 1 through 1.4 of the report, Figure 1, Tables 1 through 3.
- Appendix C
  - Settlement Evaluation, including pages from previously approved August 27, 2004 report and settlement calculations.
- Appendix D
  - Boring logs, BB-1 through BB-7, from February 11, 2014 report.

Acknowledgement of Settlement and Maintenance.

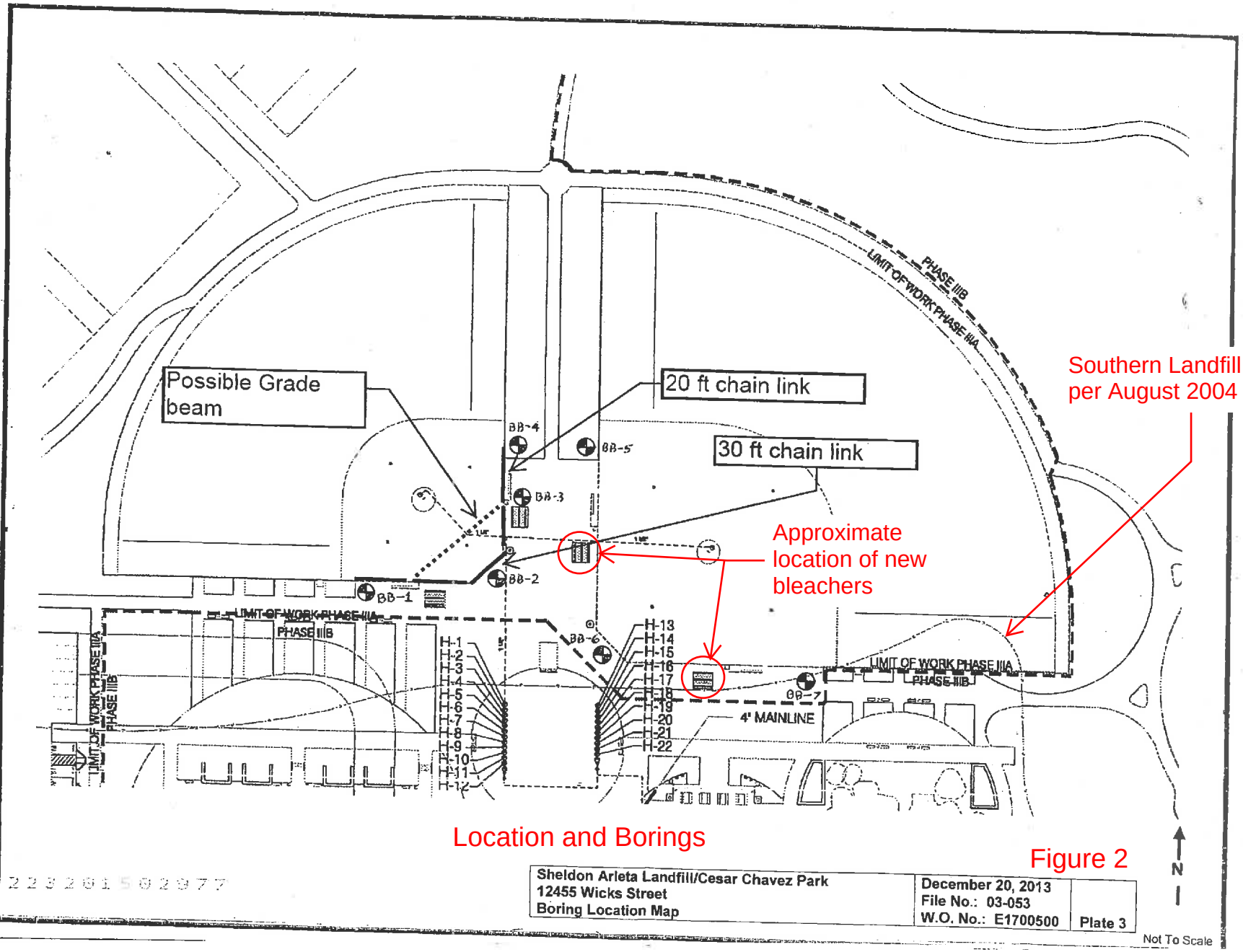
Figures



Site Vicinity Map

Not to scale

Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B** **LOS ANGELES, CALIFORNIA**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: APRIL 2021	**FIGURE No. 1**

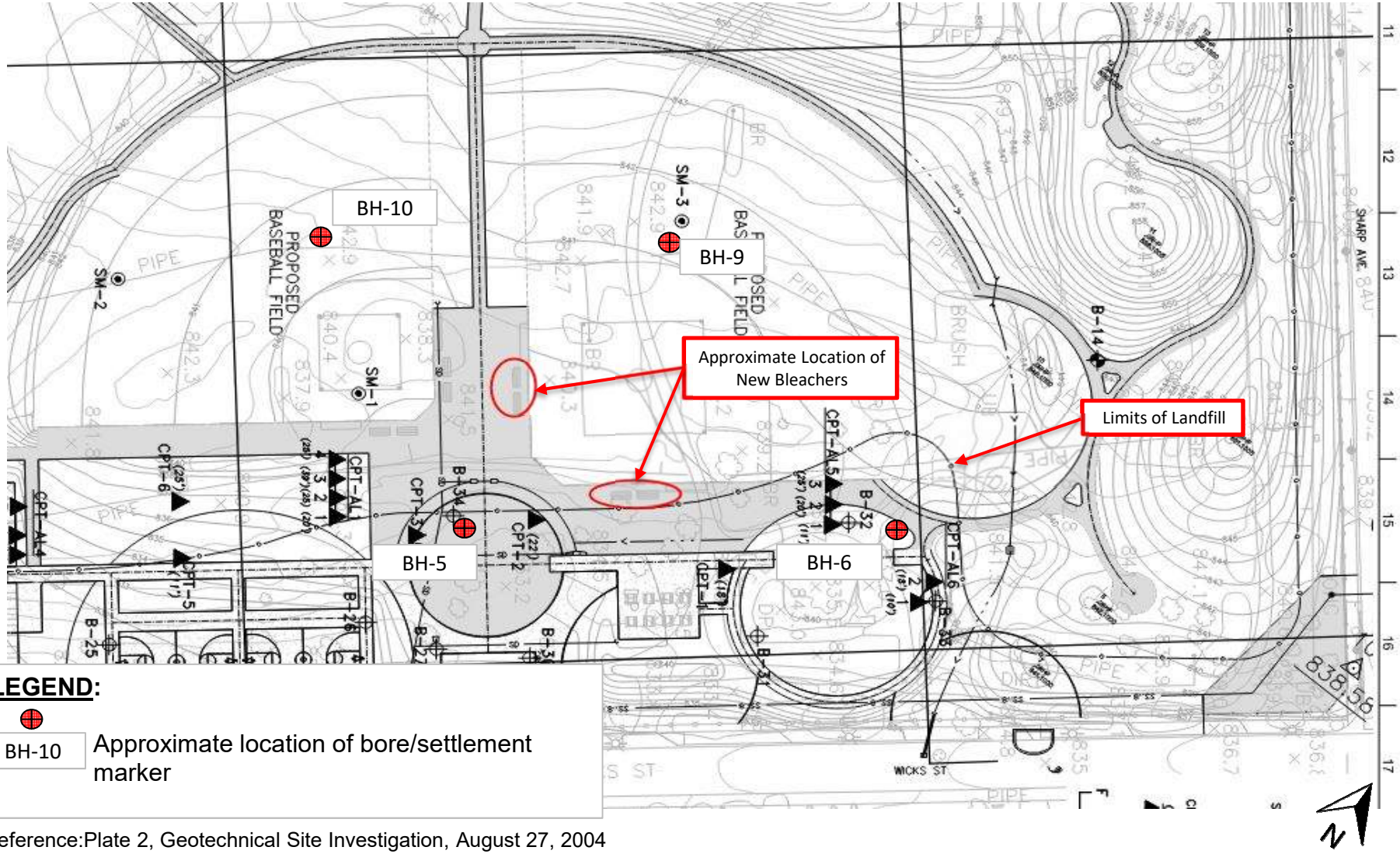


Location and Borings

Figure 2

Sheldon Arleta Landfill/Cesar Chavez Park 12455 Wicks Street Boring Location Map	December 20, 2013 File No.: 03-053 W.O. No.: E1700500	Plate 3

Not To Scale



LEGEND:

BH-10 Approximate location of bore/settlement marker

Reference:Plate 2, Geotechnical Site Investigation, August 27, 2004

Landfill Cap Investigation Locations

Not to scale

Cesar Chavez Park **(Sheldon Arleta Landfill) Phase IIIC** **12455 Wicks Street** **W.O. E170163B**	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) FILE No.: 03-053 DATE: APRIL 2021	**FIGURE No. 3**

Appendix A

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

SHELDON-ARLETA LANDFILL
COVER DEPTH EXPLORATION

LAB NO. 140-4791

W.O. NO. SA800030

JUNE 1998

ATTACHMENTS:

1. Figure 1 - Boring Location (1 sheet)
2. Table 1 - Measurement of Depth to Refuse and Cover Soil Classification (2 sheets)
3. Table 2 - Boring Coordinates and Elevation Data (2sheets)
4. Unified Soil Classification System

TABLE 1

MEASUREMENT OF DEPTH TO REFUSE AND COVER SOIL CLASSIFICATION

Project: Sheldon-Arleta Landfill - Cover Depth Exploration

Boring Number	Depth to Refuse (feet)	Cover Soil Classification/Properties	
		Soil Type : (USCS)	Soil Description/Remarks
BH-1	*		Drilled to 40 feet deep;Natural soil noted
BH-2	*		Drilled to 40 feet deep;Natural soil noted
BH-2A	*		Drilled to 20 feet deep;Natural soil noted
BH-3	23	CL	Lean Clay
BH-4	*		Drilled to 30 feet deep;Natural soil noted
BH-5	*		Drilled to 10 feet deep;Natural soil noted
BH-6	*		Drilled to 40 feet deep;Natural soil noted
BH-7	*		Drilled to 30 feet deep;Natural soil noted
BH-8	15	SM/ML	Silty Sand/Silt
BH-9	25	CL/ML	Silty Clay; encountered groundwater seepage at 24 feet.
BH-10	15	SM/ML	Silty Sand/Silt
BH-11	33	CL	Lean Clay; Encountered water @20 ft.
BH-12	17	CL/ML	Silty Clay; Encountered water @ 20 ft.
BH-13	23	CL	Lean Clay
BH-14	35	CL	Lean Clay
BH-15	42	CL	Lean Clay
BH-16	33	CL/ML	Silty Clay
BH-17	19	CL	Lean Clay
BH-18	37	CL/ML	Silty Clay

* No refuse was detected; stopped drilling when natural soil (SP/SM) is noted

MEASUREMENT OF DEPTH TO REFUSE AND COVER SOIL CLASSIFICATION

Project: Sheldon-Arleta Landfill - Cover Depth Exploration

Boring Number	Depth to Refuse (feet)	Cover Soil Classification/Properties	
		Soil Type (USCS)	Soil Description/Remark
BH-19	43	CL	Lean Clay
BH-20	53	CL/ML	Silty Clay
BH-21	32	CL	Lean Clay
BH-22	22	CL/ML	Silty Clay
BH-23	23	CL	Lean Clay
BH-24	35	CL	Lean Clay
BH-25	48	CL	Lean Clay
BH-26	31	CL/ML	Silty Clay
BH-27	14	CL/ML	Silty Clay
BH-28	36	CL/ML	Silty Clay
BH-29	25	CL/ML	Silty Clay; Encountered brick fragment@5 ft.
BH-30	34	CL	Lean Clay
BH-31	23	CL	Lean clay
BH-32	13	CL/ML	Silty clay
BH-33	12	CL/ML	Silty Clay
BH-34	13	CL	Lean Clay
BH-35	12	CL	Lean Clay

* No refuse was detected; stopped drilling when natural soil (SP/SM) is noted.

TABLE 2

BORING COORDINATES AND ELEVATION

Project: Sheldon-Arleta Landfill - Cover Depth Exploration

Boring Number	Coordinates		Elevation
	Northing	Easting	
BH-1	4194431.092	4165023.475	831.131
BH-2	4194256.125	4164829.246	828.061
BH-2A	4194279.609	4164812.842	829.693
BH-3	4194336.385	4164550.579	828.706
BH-4	4194446.187	4164834.096	841.205
BH-5	4194603.412	4165014.952	835.201
BH-6	4194767.477	4165217.021	836.169
BH-7	4194936.0	4165347.8	846.42
BH-8	4195159.1	4165118.9	847.75
BH-9	4195020.595	4165175.161	847.586
BH-10	4194675.357	4164792.314	845.389
BH-11	4194529.889	4164631.320	840.117
BH-12	4194355.985	4164401.158	828.261
BH-13	4194559.580	4164356.995	840.350
BH-14	4194749.821	4164566.270	846.250
BH-15	4194983.908	4164765.314	854.363
BH-16	4195094.554	4164937.710	853.917
BH-17	4195291.252	4165118.103	846.677
BH-18	4195330.104	4164905.711	857.933

BORING COORDINATES AND ELEVATION

Project: Sheldon-Arleta Landfill - Cover Depth Exploration

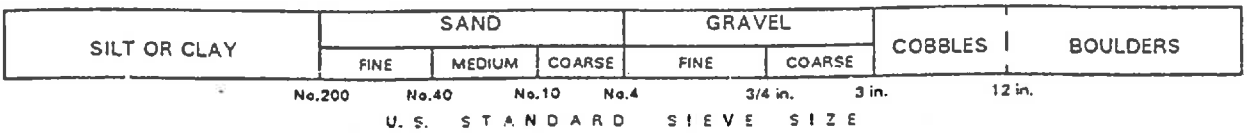
Boring Number	Coordinates		Elevation
	Northing	Easting	
BH-19	4195157.219	4164705.410	855.127
BH-20	4195023.658	4164463.030	849.230
BH-21	4194890.134	4164277.541	841.713
BH-22	4194667.169	4164132.016	833.755
BH-23	4194973.866	4164014.366	837.103
BH-24	4195096.151	4164230.338	844.671
BH-25	4195232.445	4164479.796	854.757
BH-26	4195378.001	4164703.731	856.151
BH-27	4195527.226	4164918.412	850.840
BH-28	4195622.799	4164701.326	854.372
BH-29	4195464.223	4164434.150	850.846
BH-30	4195307.582	4164228.873	847.770
BH-31	4195162.743	4164015.672	840.011
BH-32	4194996.891	4163896.627	834.587
BH-33	4195266.181	4163815.493	838.476
BH-34	4195421.842	4164017.051	840.617
BH-35	4195567.097	4164230.450	843.589

UNIFIED SOIL CLASSIFICATION SYSTEM *

MAJOR DIVISIONS			GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50 % of coarse fraction is LARGER than the No.4 sieve size)	CLEAN GRAVELS (Little or no fines)		GW	Well graded gravels, gravel-sand mixtures, little or no fines.
				GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)		GM	Silt gravels, gravel-sand-silt mixtures.
				GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No.4 sieve size)	CLEAN SANDS (Little or no fines)		SW	Well graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)		SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possesssing charecteristics of two groups are designated by combinations of group symbols.

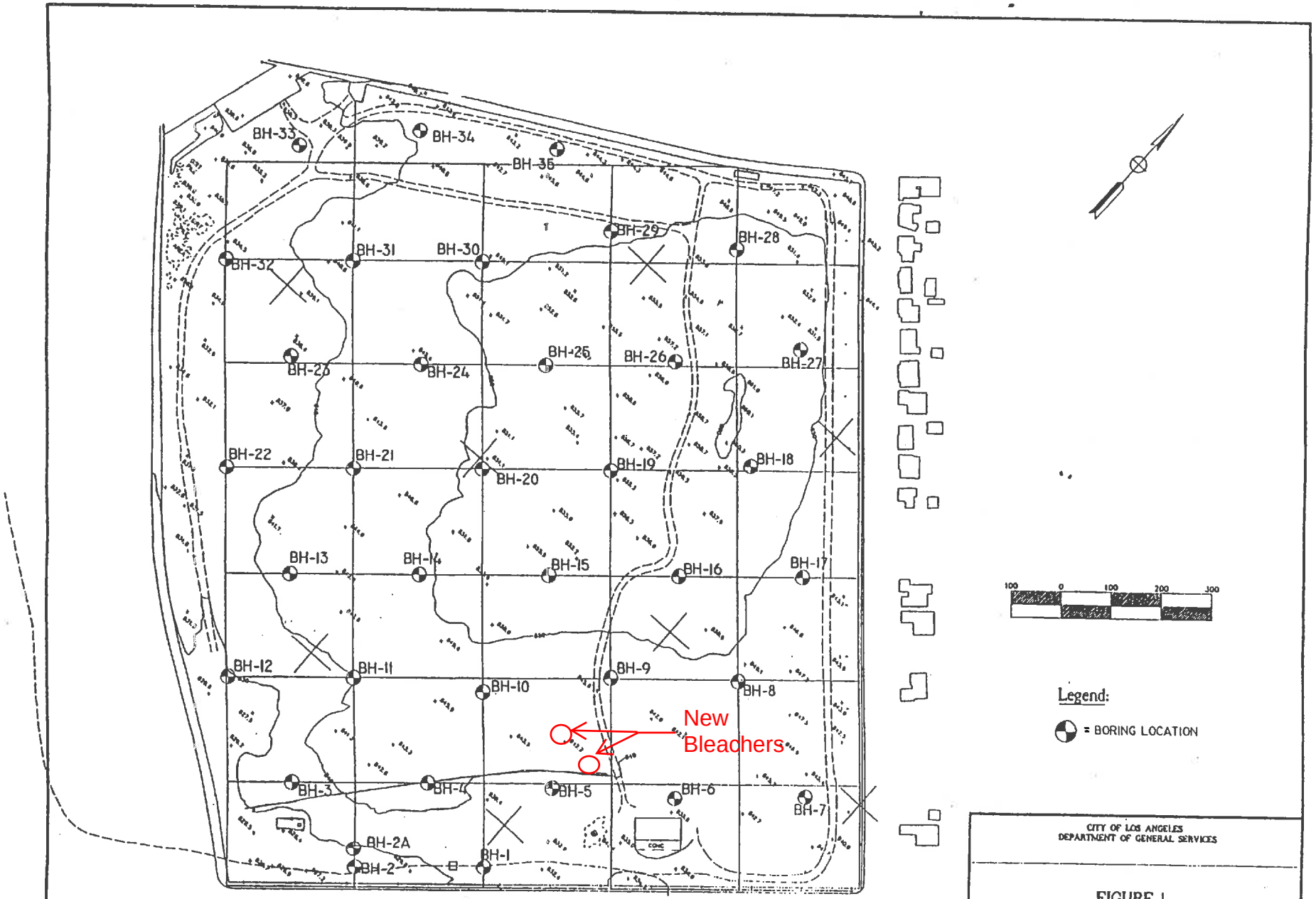
PARTICLE SIZE LIMITS



U. S. STANDARD SIEVE SIZE

* Reference:
The Unified Soil Classification System, Corps of Engineers,
U.S. Army Technical Memorandum No. 3-357, Vol. I, March 1953.
(Revised April, 1960)

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES CA 90031
(213) 485-2242



CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES

FIGURE 1
BORING LOCATIONS

Lab. No: 140-4791	CAD by: JC	Checked by: RU
Date 6-5-98		Sheet: 1 OF 1

Project Title: SHELDON-ARLETA LANDFILL COVER DEPTH EXPLORATION

W.O. No.: S8A00030

UNIFIED SOIL CLASSIFICATION SYSTEM *

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No.200 sieve size)	GRAVELS (More than 50 % of coarse fraction is LARGER than the No.4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silt gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No.4 sieve size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No.200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty cleys, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possesssing charecteristics of two groups are designeted by combinetions of group symbols.

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

No.200 No.40 No.10 No.4 3/4 in. 3 in. 12 in.

U. S. STANDARD SIEVE SIZE

* Reference:
The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. I, March 1953. (Revised April, 1960)

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
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Appendix B

SETTLEMENT ANALYSIS

(Also included in this report is a cost estimate of the reconstruction/replacement of the above-ground gas collection system with a below-grade piping system)

Bureau of Engineering
PROJECT
Received
SEP 24 2003
DOCUMENT CONTROL

SHELDON-ARLETA LANDFILL SETTLEMENT EVALUATION AND COST ESTIMATE OF GAS SYSTEM RECONSTRUCTION

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SHELDON-ARLETA LANDFILL SETTLEMENT EVALUATION AND COST ESTIMATE OF GAS SYSTEM RECONSTRUCTION

SCS Engineers (SCS) was retained by Garcia, McCoy & Lee on behalf of Major League Baseball to analyze potential settlement issues related to redevelopment of the closed Sheldon-Arleta Landfill as a youth baseball academy. SCS was also asked to estimate the cost of reconstructing an existing landfill gas (LFG) collection system at the site, replacing the current aboveground collection piping with below-grade (buried in trenches) piping.

1.0 SETTLEMENT ANALYSIS

It is proposed to construct baseball fields and related, support facilities across portions of the Sheldon-Arleta Landfill footprint. Due to the potential for short- and long-term settlement of the underlying compressible municipal solid waste, SCS was asked to review available information and to provide analysis of the data and comments or recommendations for proposed improvements, including ballfield development.

This report discusses site conditions that are likely to influence settlement, provides our evaluation of potential future settlement, and includes comments and recommendations to assist in the final design of the facilities.

It should be noted at the outset that estimating settlement of municipal solid waste and uncontrolled fill, especially at older sites that were constructed with less controls than are required by today's regulatory standards, is relatively approximate. Precise estimates are not possible or reliable, given the heterogeneous waste properties and many unknown conditions. However, it is possible to provide very approximate ("order of magnitude," or "ballpark") estimates that will help the designer in development grading and construction plans that account for settlement and thus minimize their impacts on structures and other site improvements. In this case, the estimates will provide information to determine if ballfield developments are feasible and cost-effective.

1.1 BACKGROUND INFORMATION

Prior to operating as a landfill, the site was an old gravel pit. Gravel was mined out and the resulting excavation was filled to existing grade with municipal refuse. A topographic map of the site, dated January 1962, was provided for our review and presumably depicts surface grades at the completion of gravel mining. For this study, it was initially assumed that the 1962 grades are relatively close to the bottom grades of the landfill.

According to the *Final Closure and Post-Closure Maintenance Plan*, December 1998, the Sheldon-Arleta Landfill is located in the northeast are of the San Fernando Valley, near the junction of the Hollywood and Golden State Freeways (SR-170 and I-5, respectively). The site encompasses 41 acres and was operated by the City of Los Angeles between February 1962 and July 1974 as a Class III (non-hazardous) sanitary landfill. Approximately 3 million tons of residential and commercial refuse was reported to have been buried at the site.

The closure plan indicates that between 15 to 50 feet of soil fill was placed over the refuse since (not necessarily immediately after) the site ceased accepting waste in 1974. It also indicates that an average of 25 feet of soil overlies the waste, and that the City has placed additional cover soil over and above the 25-foot average thickness.

We were also provided with the *Sheldon-Arleta Landfill Cover Depth Exploration* report, dated June 1998. The report provides results of 36 borings performed across the entire site area to measure depth to waste. Figure 1, showing boring locations, and Table 1, summarizing soil depth measurements, are taken from the Cover Depth report and are attached to this report for reference. Table 1 indicates that soil cover ranges from 12 to 53 feet, averaging slightly over 27 feet. At some locations, waste was not encountered and thus considered as outside the waste footprint.

Table 2 indicates the estimated top of waste elevation (from the borings), estimated bottom of waste and waste depth (from the 1962 and 2002 topographic maps), and settlement measurements between 1996 and 2002 (from comparing the two topo maps). Top of waste elevations ranged from about 796 to 836, while thickness ranged from 176 feet (BH-8) to negative values. The average waste thickness calculated was 102 feet.

The soil borings indicate that the cover soils are generally classified as CL (low-plasticity clay, or lean clay) and CL/ML (silty clay), with limited SM/ML (silty sand and silt) materials. No documentation indicated the relative density (or compactness) of the soils. We have assumed that the cover was not constructed as an engineered fill, with specific compaction requirements (this would be typical of landfill overfill, where it is not intended to support buildings). Additionally, there is no record of when the soil cover was placed.

Topographic maps of the site, dated 1996 and 2002, were also provided. These maps are valuable in that they can be compared to calculate the magnitude of settlement over the recent 6-year period of time.

1.2 BASE OF GRAVEL MINING/LANDFILL BASE GRADES

As noted above (for purposes of this evaluation), it was initially assumed that the bottom of refuse is essentially equal to ground elevations depicted on *Drawing 3 – Pre-Landfill Topography Map,* dated January 3, 1962. This drawing shows that the site area is relatively square, bounded by Wicks Street, Arleta Avenue, Sheldon Street, and Sharp Avenue. The actual gravel pit excavation appears covers about 3/4 of the site area, including the east, north, and western corners. The lowest ground elevation is at 654 feet in the NE quadrant, while much of the gravel-mined areas are in the range of about 660 to 730 feet. The highest elevation in 1962 is shown to be 849 feet, along Sharp Avenue.

As will be shown later, the data suggests that waste is present deeper than the 1962 topographic map. This is an indication that some additional excavation occurred, subsequent to gravel mining, creating additional space that was used for deposition of waste.

1.3 COMPARISON OF 1996 AND 2002 GRADES

A comparison of the 1996 and 2002 grades was performed and the results tabulated on Table 3. This table lists the elevations at selected 100-foot by 100-foot grid locations for the years 1996 and 2002, and calculates the total and differential settlement over that 6-year period (assuming no land disturbance or filling since 1996). Some of this settlement may have occurred within the soil cover, although we suspect that the large majority of the measured settlement is due to the waste compression.

In summary, comparing the 1996 and 2002 grades indicates that a maximum settlement of 4.40 feet occurred at one location near the central part of the landfill. Lesser settlements were calculated near the outer waste limits. Overall, the average total settlement for the site was about 1.6 feet. (Note: Topographic mapping using photogrammetry methods are normally accurate to one half of a contour interval, about 1 foot on this map. Also, our estimation of the elevation at any given point is based on visually interpolating between contours, which is also imprecise. So, for example, there are locations that indicate an elevation increase since 1996. Unless some filling was performed since 1996, it is more likely that any "negative" settlement merely reflects inherent precision of the mapping method.)

Differential settlement between adjacent grid points was also calculated. The maximum value was 3.6 percent, and overall average was about 0.9 percent.

Additional observations are listed below:

- In the area around BH-10, 11, and 14, settlement was in the 2- to 4-foot range, even though the calculated waste depth (based on the above assumptions and information) is less than 10 feet or a negative value. One possible explanation is that this area was excavated below the 1962 grades at some point and filled in with waste.
- Another area of settlement in the 2- to 4-foot range is located near BH-20, 23, 24, and 31. This is most likely due to the significant thickness of waste beneath area.
- Settlement within 100 feet of the perimeter is generally within the 0 to 1.0-foot range.

1.4 FUTURE SETTLEMENT CALCULATIONS

Analytical methods are available to calculate settlement of waste materials. Sowers (1973), Yen and Scanlon (1975), and others have discussed the basic mechanisms of waste settlement, and provided methods to calculate settlement that are used today. Sowers indicated that waste settlement occurs due to five mechanisms: (1) mechanical (distortion, bending, crushing, etc., of particles, including stresses due to new fills and other loadings; (2) raveling, or movement of particles into voids; (3) physiochemical changes (corrosion, oxidation, and combustion); (4) biochemical decay (fermentation, aerobic and anaerobic decay); and (5) interaction of biochemical and organic decay.

In general, waste compresses during the filling process and continues for some period after filling is completed due to the all of the five mechanisms listed above. Additional loads placed on the waste, such as final soil cover, will trigger additional waste settlement that is proportional to the new loading, the original waste thickness, and compressibility of the waste itself. The time-settlement relationship observed for waste is as follows: the mass compresses quite rapidly for a period of about 1 month, more or less, after initial filling, and then compresses at a slower rate over time; settlement each year is less than during the previous year. The initial rapid compression is analogous to primary consolidation of a compressible soil, while the slower rate is similar to secondary consolidation.

For the Sheldon-Arleta Landfill, the initial or primary compression phase that occurs rapidly has long been completed as filling was terminated in 1974. Similarly, primary consolidation (settlement) of the waste that resulted from placement of the 15 to 50 feet of cover soils is also very likely completed. The underlying waste is experiencing the long-term, secondary consolidation phase due to the soil cover loads and other factors noted above. For purposes of this evaluation, we assumed that all soil cover was placed prior to 1984.

Since the 1996 and 2002 topographic maps provide data to calculate settlement over the most recent 6 years, it is possible to use the analytical relationship developed by Sowers (for the secondary consolidation phase) to predict settlement in the future. Such topographic information is usually not available, and thus provides valuable data to calibrate any settlement models or otherwise provide actual data from which to base an analysis.

The relationship is a logarithmic function of time, as indicated below:

$$\Delta H = H^*[Cs/(1+e)] * \log (t_2/t_1)$$

Where,

ΔH = settlement of a waste layer of thickness H
H = thickness of the waste layer under consideration
Cs = Coefficient of secondary compression
e = void ratio of waste

t_2 = ending time period

t_1 = starting time period

For this evaluation, we can estimate the future waste settlement at any point across the landfill for the next 6-year period (or any other time period) that occurs due to secondary compression. This assumes that no additional filling or loadings occur, and that all other properties of the waste and soil do not change. For the next 6-year period (2002 to 2008), surface settlements may be calculated as follows:

$$\Delta H_{2002 \text{ to } 2008} = \Delta H_{1996 \text{ to } 2008} * \frac{\log [(2008-1984)/(2002-1984)]}{\log [(2002-1984)/(1996-1984)]}$$

Thus, to estimate total settlement for the next 6 years, multiply the measured settlement (1996 to 2002) by a factor of about 0.70. For example, the average settlement from 1996 to 2002 was calculated to be 1.6 feet; the average settlement from 2002 to 2008 would be approximately 1.1 feet, or a little more than 2 inches per year. The maximum 4.4-foot settlement measurement leads to an estimate of 3.1 feet over the next 6 years, or about 6 inches per year.

Each subsequent 6-year period will show lesser and lesser settlements based on this same logarithmic relationship. Using this method, we estimate that total settlement between 2008 and 2014 would average 0.8 feet (1.1 inch per year), and the maximum would be about 2.2 feet; from 2014 to 2022, the average would be 0.5 feet, etc.

If additional fill is added to the current surface grade to facilitate drainage or fill in low-lying areas, this will trigger additional consolidation of the waste at and near those locations, above and beyond what is predicted by the above method. However, given the relatively thick soil fill already covering the waste, new soil fills would need to be several feet thick to trigger significant movement. Additional analysis can be performed to calculate settlement due to new fills at a later time, if required.

1.5 DESIGN, OPERATION, AND MAINTENANCE ISSUES

As demonstrated above, settlement of the waste mass and overlying cover soils will continue for the near future, but at rates that are less than those observed over the past 6 years. Except for

areas where settlement has exceeded about 2 or 3 feet since 1996, it is anticipated that the magnitude of the total and differential settlement will be manageable in design, operation, and maintenance of ballfields.

Ideally, the ballfields would be positioned in areas where measurable settlement since 1996 has been the smallest, and oriented such that they do not cross over areas of highest differential settlement. These differential movements will cause the most potential for distress, changes in drainage, and other related problems. Depending on grading and drainage requirements, the ballfields could be located to take advantage of the ongoing settlement to promote surface drainage. Given this criterion, locating the ballfields closer to the perimeter of the site (where waste is thinnest), and specifically avoiding the areas around BH-10, 11, 19, 23, 24, and 31, would be beneficial. If this is not possible, the site design and grading plans should be developed to consider the ongoing long-term settlement, as well as any additional settlement that may be induced by new fills.

In general, from a settlement viewpoint, it will be preferable to achieve level grades by excavating and removing soil rather than filling. Balancing cut and fill will probably be acceptable, providing the addition fill at any given location is less than about 5 feet. This can probably be achieved if the individual fields do not have to be at the same elevation. Alternatively, the design could allow for some short-term accelerated settlement in those areas which must be raised. Use of lightweight aggregate fills might be considered as well.

Ground improvement methods, such as dynamic deep compaction or soil pre-loading are available to accelerate short-term settlement with the objective of reducing long-term settlement. However, these would be of relatively limited value in this case, since the compressible stratum is 15 to 50 feet below grade. Synthetic reinforcement materials, such as geogrids, may be beneficial to minimize the effect of differential ground movements under building foundations, slabs, roads, parking areas, and underground utilities, but they will not eliminate settlement.

Prior to finalizing design of the supporting facilities (e.g., buildings, parking areas, roads, utilities, and other features), additional geotechnical borings and testing should be performed to characterize the properties of the overlying soil cover. This work should include split-spoon (standard penetration test) sampling at appropriate locations, laboratory soil testing to

characterize the properties of the soil fill (i.e., moisture content, particle size distribution, Atterberg limits, in-place density, compressibility, shear strength, etc.), and preparation of a geotechnical report to guide earthwork in the uncontrolled soil fill. A conventional soil investigation would be undertaken where such structures are to be built on native soil areas.

Such a geotechnical investigation should establish specific requirements for underground utilities. Utilities which cross over from native soil areas to over-waste areas should be designed with flexible connections to tolerate settlement.

Light poles and building foundations should be designed, and oriented, such that they avoid the areas of highest settlement, if possible. Where this cannot be avoided, the structures should be designed to be flexible and able to tolerate settlement -- such that foundations that can be jacked back into place (plumb). Deep foundation systems are an alternative, but would need to extend below the waste depth, which would be very expensive. Given the relatively thick soil cover, conventional shallow foundations may be suitable for most light structures.

Budgeting for long-term operation and maintenance should consider the need for periodic regrading (and landscaping repair) of both local and larger areas. The frequency of regrading will depend the actual settlement experienced, and on the MLB's tolerance of these settlements on ballfield performance, especially drainage (ponding at low points) and erosion.

If it becomes necessary to add new fills, or footing loads (i.e., with a new structure), the settlement should be recalculated to consider the new loads. The following methodology is recommended:

Utilize a basic compression model (such as Hough, 1957) that incorporates the waste settlement characteristics developed by Sowers, 1970.

In Hough's model, the basic settlement relationship is as follows:

$$\text{Settlement, } S = H * \frac{C}{1+e} * \log(1 + dP/P)$$

Where, S = Total settlement of the compressible layer under study (the waste)

H = original thickness of the compressible layer

C = coefficient of secondary compression of the compressible layer

e = initial void ratio of the compressible layer

P = initial stress at center of compressible layer

dP = stress increase due to new loading

Based on Sowers' work, Cc for MSW ranges from 0.03*e to 0.09*e for conditions "unfavorable" and "favorable" to settlement, respectively. In this case, given the age and type of the waste, and compaction in lifts, we can assume the lower end of the range, meaning Cc = 0.03*e to 0.06*e. This means that the waste will not compress as much as freshly placed waste, but due to the unknown nature of compaction, may still compress under new loadings.

The initial void ratio, e, of the waste (current condition) may be estimated in the range of 2.0 to 3.0. At these void ratios, and assuming a specific gravity of the waste at about 1.5, the resulting waste density (wet density) will be somewhere between 800 and 1000 pounds per cubic yard, which is typical for this type of landfill.

1.6 SUMMARY

We offer the following summary observations:

- Average total settlement over the next 6 years is estimated at 1.1 feet, or about 2 inches per year. The rate of settlement will decline further into the future.
- Over the next 6 years, the maximum settlement at any single location on the site is estimated at about 3 feet (6 inches per year).
- Ground improvement methods, such as dynamic compaction and surcharging, would probably not be cost-effective due to the thickness of the existing soil cover.
- The site architect can use the information in this report (Table 3) to identify areas of the greatest settlement potential, and may arrange site improvements to avoid those areas, if feasible.
- Some structures and utilities which will overlie waste may require special foundations and designs. Deep pile foundations (very expensive) can probably be avoided, especially if some differential settlement can be tolerated.

- Budgeting for long-term operation and maintenance should consider the need for periodic regrading (and landscaping repair) of both local and larger areas. The frequency of regrading will depend the actual settlement experienced, and on the MLB's tolerance of these settlements on ballfield performance, especially drainage (ponding at low points) and erosion.

- A more precise settlement estimate could be obtained by re-surveying the elevations of the points included in the 1998 cover analysis. Rather than relying on visual interpolation of the map contours, this would provide very accurate elevations of 36 specific locations. However, we do not believe the overall findings would change.

2.0 LANDFILL GAS SYSTEM RECONSTRUCTION

The Sheldon-Arleta landfill contains a landfill gas (LFG) migration control system that consists of gas extraction wells and piping. These are connected to an on-site flare and a compressor plant which sends the collected gas to an off-site power plant where it is used as fuel to generate electricity. The piping is currently laid on the surface (which minimizes construction and maintenance costs). In order for the MLB baseball academy to be developed, the gas collection piping will probably need to be replaced with buried lines, so that they do not interfere with the academy operations.

SCS prepared an estimate of the cost to bury the lines. In general, the following conservative assumptions were used:

- The existing piping would be replaced with new pipe; i.e., the existing pipe could not be economically salvaged. (During the design, we would more carefully inspect the existing pipe to see if it can be at least partially salvaged.)

- The alignment (layout) of the pipes would remain the same, except for some minor modifications, and we would utilize the existing wells.

- Wellheads and connections to the new piping would be in below-surface vaults.

- Maximum pipe slope of 3 percent, and maximum depth of trench of 6 feet.

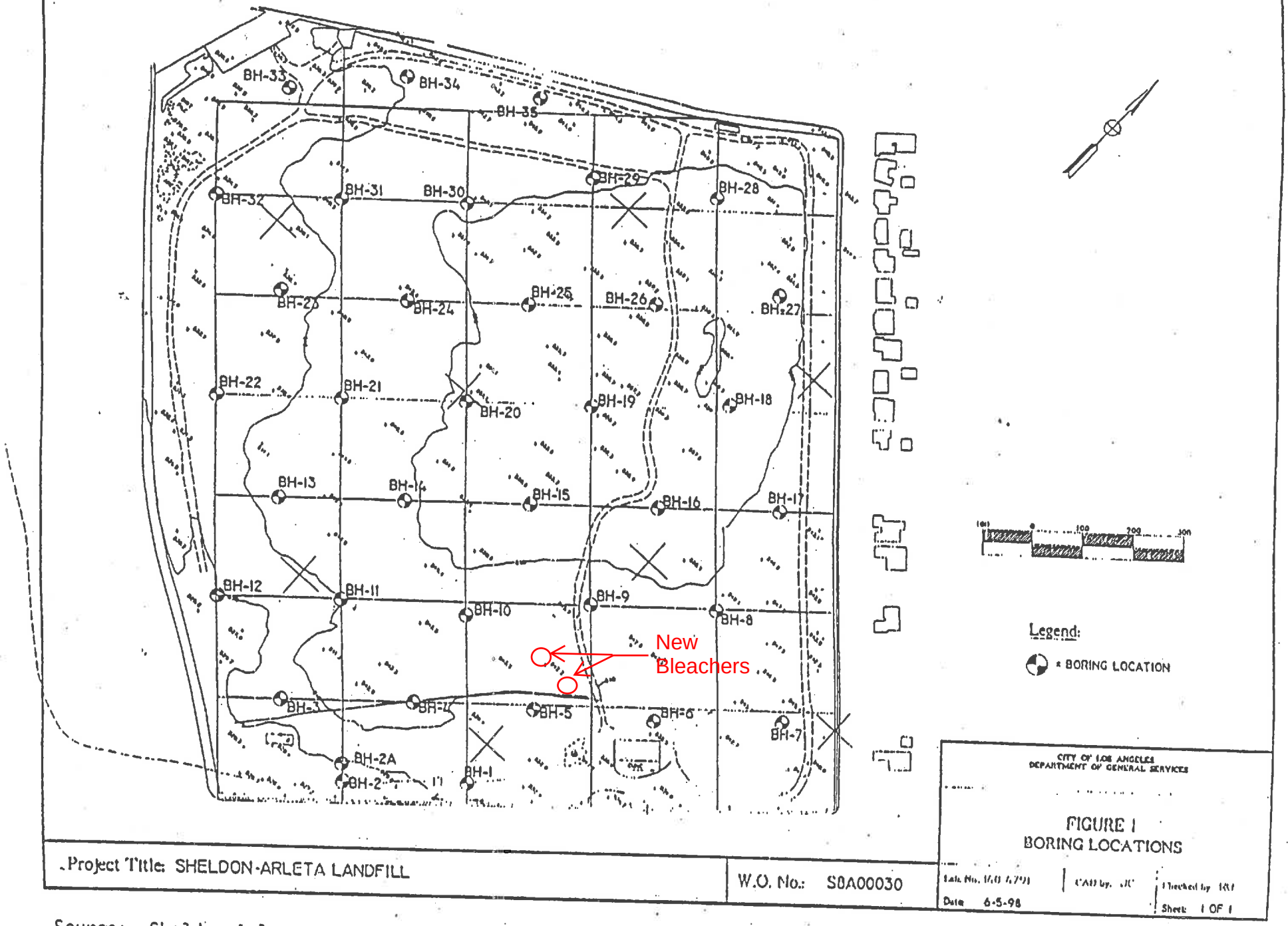
- We increased some pipe sizes (3-inch to 4-inch, and 6-inch to 8-inch) to allow for unexpected settlement and condensate accumulation.

The following table presents the estimated total cost of the system reconstruction.

SHELDON-ARLETA PRELIMINARY CONSTRUCTION ESTIMATE

	Unit	Quantity	Unit Price	Item Price
Mobilization	Lump	1	$12,000.00	$12,000
Remove and dispose of existing above-grade PVC pipe	LF	9,900	$3.50	$34,650
Installation of 8-inch below-grade HDPE Pipe	LF	9,900	$23.00	$227,700
Installation of 4-inch below-grade HDPE Pipe	LF	2,600	$17.50	$45,500
Installation of 2-inch air and condensate lines	LF	5,000	$3.00	$15,000
Installation of pneumatic condensate sumps	EA	8	$13,000.00	$104,000
Cut down existing wells and place in vaults	EA	58	$450.00	$26,100
Install 8-inch butterfly valve	EA	6	$1,200.00	$7,200
Flare station tie-in	Lump	1	$3,500.00	$3,500
TOTAL PRICE				**$475,000**

The total construction cost is estimated at $475,000. There may be opportunity to reduce this cost by not reconstructing those portions of the existing system which would not interfere with the Academy, if this is acceptable to MLB. On the other hand, it may be advisable to reroute some of the lines, and even relocate some extraction wells due to access considerations, once the layout of the ballfields is finalized. An engineering and contingency allowance may be added, which would suggest a total project budgetary cost of $550,000.



Source: Sheldon-Arleta Landfill Cover Depth Exploration Report, June 1998.

TABLE 1

MEASUREMENT OF DEPTH TO REFUSE AND COVER SOIL CLASSIFICATION

Project: Sheldon-Arleta Landfill - Cover Depth Exploration

Boring Number	Depth to Refuse (feet)	Cover Soil Classification/Properties	
		Soil Type (USCS)	Soil Description/Remarks
BH-1	*		Drilled to 40 feet deep;Natural soil noted
BH-2	*		Drilled to 40 feet deep;Natural soil noted
BH-2A	*		Drilled to 20 feet deep;Natural soil noted
BH-3	23	CL	Lean Clay
BH-4	*		Drilled to 30 feet deep;Natural soil noted
BH-5	*		Drilled to 10 feet deep;Natural soil noted
BH-6	*		Drilled to 40 feet deep;Natural soil noted
BH-7	*		Drilled to 30 feet deep;Natural soil noted
BH-8	15	SM/ML	Silty Sand/Silt
BH-9	25	CL/ML	Silty Clay; encountered groundwater seepage at 24 feet.
BH-10	15	SM/ML	Silty Sand/Silt
BH-11	33	CL	Lean Clay; Encountered water @20 ft.
BH-12	17	CL/ML	Silty Clay; Encountered water @ 20 ft.
BH-13	23	CL	Lean Clay
BH-14	35	CL	Lean Clay
BH-15	42	CL	Lean Clay
BH-16	33	CL/ML	Silty Clay
BH-17	19	CL	Lean Clay
BH-18	37	CL/ML	Silty Clay

* No refuse was detected; stopped drilling when natural soil (SP/SM) is noted

Source: Sheldon-Arleta Landfill Cover Depth Exploration Report, June 1998.

MEASUREMENT OF DEPTH TO REFUSE AND COVER SOIL CLASSIFICATION

Project: Sheldon-Arleta Landfill - Cover Depth Exploration

Boring Number	Depth to Refuse (feet)	Cover Soil Classification/Properties	
		Soil Type (USCS)	Soil Description/Remark
BH-19	43	CL	Lean Clay
BH-20	53	CL/ML	Silty Clay
BH-21	32	CL	Lean Clay
BH-22	22	CL/ML	Silty Clay
BH-23	23	CL	Lean Clay
BH-24	35	CL	Lean Clay
BH-25	48	CL	Lean Clay
BH-26	31	CL/ML	Silty Clay
BH-27	14	CL/ML	Silty Clay
BH-28	36	CL/ML	Silty Clay
BH-29	25	CL/ML	Silty Clay; Encountered brick fragment@5 ft.
BH-30	34	CL	Lean Clay
BH-31	23	CL	Lean clay
BH-32	13	CL/ML	Silty clay
BH-33	12	CL/ML	Silty Clay
BH-34	13	CL	Lean Clay
BH-35	12	CL	Lean Clay

* No refuse was detected; stopped drilling when natural soil (SP/SM) is noted.

Source: Sheldon-Arleta Landfill Cover Depth Exploration Report, June 1998.

TABLE 2

SHELDON ARLETA LANDFILL - SUMMARY CHART OF SOIL COVER DEPTH, WASTE ELEVATION, ESTIMATED WASTE DEPTH ESTIMATES & SETTLEMENT 1996 TO 2002

Boring (BH-x)	Surface Elev (1996)	Soil Cover Depth (1998)	Waste Elev (1998)	Estimated Bottom of Waste (1962)	Estimated Waste Thickness	Surface Settlement 1996 to 2002 (6 years)	Ratio: Settlement to Waste Thickness	Ratio: Settlement to Soil Cover	COMMENT
1	831.1	*	*	*	*	*			No waste
2	828.1	*	*	*	*	*			No waste
2A	829.7	*	*	*	*	*			No waste
3	828.7	23	805.7	836					Waste below 1962 grade
4	841.2	*	*	*	*	*			No waste
5	835.2	*	*	*	*	*			No waste
6	836.2	*	*	*	*	*			No waste
7	846.4	*	*	*	*	*			No waste
8	847.8	15	832.8	656	176.8	0.6	0.3%	4.0%	
9	847.6	25	822.6	670	152.6	2	1.3%	8.0%	
10	845.4	15	830.4	837	-6.6	2.65	-40.1%	17.7%	Waste below 1962 grade
11	840.1	33	807.1	800	7.1	4.2	59.1%	12.7%	
12	828.3	17	811.3	830	-18.7	0.5	-2.7%	2.9%	Waste below 1962 grade
13	840.4	23	817.4	763	54.4	0.2	0.4%	0.9%	
14	846.3	35	811.3	824	-12.8	2	-15.7%	5.7%	Waste below 1962 grade
15	854.4	42	812.4	730	82.4	1.6	1.9%	3.8%	
16	853.9	33	820.9	685	135.9	1.1	0.8%	3.3%	
17	846.7	19	827.7	730	97.7				
18	857.9	37	820.9	735	85.9	0.2	0.2%	0.5%	
19	855.1	43	812.1	738	74.1	2.4	3.2%	5.6%	
20	849.2	53	796.2	725	71.2	1.8	2.5%	3.4%	
21	841.7	32	809.7	680	129.7	1.6	1.2%	5.0%	
22	833.8	22	811.8	825	-13.2	1.6	-12.1%	7.3%	Waste below 1962 grade
23	837.1	23	814.1	715	99.1	3.6	3.6%	15.7%	
24	844.7	35	809.7	685	124.7	4.3	3.4%	12.3%	
25	854.8	48	806.8	696	110.8	1.4	1.3%	2.9%	
26	856.2	31	825.2	728	97.2	1.1	1.1%	3.5%	
27	850.8	14	836.8	750	86.8				
28	854.4	36	818.4	730	88.4	1	1.1%	2.8%	
29	850.8	25	825.8	730	95.8	0.3	0.3%	1.2%	
30	847.8	34	813.8	680	133.8	1.3	1.0%	3.8%	
31	840.0	23	817.0	680	137.0	2.4	1.8%	10.4%	
32	834.6	13	821.6	825	-3.4	1.2	-35.2%	9.2%	Waste below 1962 grade
33	838.5	12	826.5	835	-8.5				Waste below 1962 grade
34	840.6	13	827.6	837	-9.4				Waste below 1962 grade
35	843.6	12	831.6	830	1.6				Waste below 1962 grade
AVERAGES (w/o negatives)					102.1	1.6	4.24%	4.99%	

TABLE 3. SHELDON ARLETA LANDFILL - COMPARISON OF SURFACE ELEVATIONS 1996 AND 2002 TOPOGRAPHIC MAPS

Point No.	NORTH	EAST	ELEV 2002	ELEV 1996	DIFFERENCE in FEET (=TOTAL SETTLEMENT)	DIFFERENTIAL SETTLEMENT % (to adjacent Point)	COMMENT
1	4,195,900	4,164,700	845.2	845.9	0.70		
2	4,195,800	4,164,600	846.5	846.8	0.30	0.28%	
3	4,195,800	4,164,700	848.5	849.2	0.70	0.40%	
4	4,195,800	4,164,800	844.4	844.6	0.20	0.50%	
5	4,195,700	4,164,400	846.8	848.0	1.20	0.24%	
6	4,195,700	4,164,500	850.0	850.3	0.30	0.90%	
7	4,195,700	4,164,600	850.6	850.6	0.00	0.30%	
8	4,195,700	4,164,700	850.0	850.0	0.00	0.00%	
9	4,195,700	4,164,800	844.0	844.3	0.30	0.30%	
10	4,195,700	4,164,900	Outside, or near edge of waste				
11	4,195,600	4,164,300					
12	4,195,600	4,164,400					
13	4,195,600	4,164,500					
14	4,195,600	4,164,600	852.0	853.2	1.20	1.20%	
15	4,195,600	4,164,700	855.4	855.9	0.50	0.70%	
16	4,195,600	4,164,800	851.9	852.5	0.60	0.10%	
17	4,195,600	4,164,900	Outside, or near edge of waste				
18	4,195,500	4,164,100					
19	4,195,500	4,164,200					
20	4,195,500	4,164,300					
21	4,195,500	4,164,400	848.2	848.5	0.30	0.30%	
22	4,195,500	4,164,500	852.0	852.7	0.70	0.40%	
23	4,195,500	4,164,600	854.2	854.9	0.70	0.00%	
24	4,195,500	4,164,700	857.3	858.2	0.90	0.20%	
25	4,195,500	4,164,800	857.1	857.8	0.70	0.20%	
26	4,195,500	4,164,900	Outside, or near edge of waste				
27	4,195,500	4,165,000					
28	4,195,400	4,163,900					
29	4,195,400	4,164,000					
30	4,195,400	4,164,100					
31	4,195,400	4,164,200					
32	4,195,400	4,164,300	847.5	848.0	0.50	0.50%	
33	4,195,400	4,164,400	850.1	851.8	1.70	1.20%	
34	4,195,400	4,164,500	854.1	854.7	0.60	1.10%	
35	4,195,400	4,164,600	855.8	856.8	1.00	0.40%	
36	4,195,400	4,164,700	857.2	858.3	1.10	0.10%	
37	4,195,400	4,164,800	859.2	857.9	-1.30	2.40%	
38	4,195,400	4,164,900	857.1	858.5	1.40	2.70%	
39	4,195,400	4,165,000	Outside, or near edge of waste				
40	4,195,400	4,164,100					
41	4,195,300	4,163,700					
42	4,195,300	4,163,800					
43	4,195,300	4,163,900					
44	4,195,300	4,164,000					
45	4,195,300	4,164,100	842.0	843.5	1.50	1.50%	
46	4,195,300	4,164,200	846.8	848.0	1.20	0.30%	
47	4,195,300	4,164,300	848.5	849.8	1.30	0.10%	
48	4,195,300	4,164,400	850.6	852.8	2.20	0.90%	
49	4,195,300	4,164,500	853.0	855.0	2.00	0.20%	

TABLE 3. SHELDON ARLETA LANDFILL - COMPARISON OF SURFACE ELEVATIONS 1996 AND 2002 TOPOGRAPHIC MAPS

Point No.	NORTH	EAST	ELEV 2002	ELEV 1996	DIFFERENCE in FEET (=TOTAL SETTLEMENT)	DIFFERENTIAL SETTLEMENT % (to adjacent Point)	COMMENT
50	4,195,300	4,164,600	854.3	856.3	2.00	0.00%	
51	4,195,300	4,164,700	856.1	857.8	1.70	0.30%	
52	4,195,300	4,164,800	857.7	858.7	1.00	0.70%	
53	4,195,300	4,164,900	858.0	858.2	0.20	0.80%	
54	4,195,300	4,165,000	853.0	854.0	1.00	0.80%	
55	4,195,300	4,165,100	Outside, or near edge of waste				
56	4,195,300	4,165,200					
57	4,195,200	4,163,700					
58	4,195,200	4,163,800					
59	4,195,200	4,163,900					
60	4,195,200	4,164,000	838.3	840.3	2.00	2.00%	
61	4,195,200	4,164,100	842.0	843.5	1.50	0.50%	
62	4,195,200	4,164,200	846.8	847.9	1.10	0.40%	
63	4,195,200	4,164,300	848.5	850.4	1.90	0.80%	
64	4,195,200	4,164,400	850.6	852.1	1.50	0.40%	
65	4,195,200	4,164,500	853.0	854.4	1.40	0.10%	
66	4,195,200	4,164,600	854.3	855.9	1.60	0.20%	
67	4,195,200	4,164,700	856.1	856.8	0.70	0.90%	
68	4,195,200	4,164,800	857.7	857.8	0.10	0.60%	
69	4,195,200	4,164,900	858.0	857.6	-0.40	0.50%	
70	4,195,200	4,165,000	853.0	853.9	0.90	1.30%	
71	4,195,200	4,165,100	Outside, or near edge of waste				
72	4,195,200	4,165,200					
73	4,195,200	4,165,300					
74	4,195,100	4,163,700					
75	4,195,100	4,163,800					
76	4,195,100	4,163,900	833.9	837.5	3.60	3.60%	Maximum Differential Settlement
77	4,195,100	4,164,000	838.2	840.8	2.60	1.00%	
78	4,195,100	4,164,100	840.2	842.6	2.40	0.20%	
79	4,195,100	4,164,200	842.0	845.2	3.20	0.80%	
80	4,195,100	4,164,300	841.7	844.0	2.30	0.90%	
81	4,195,100	4,164,400	844.0	848.4	4.40	2.10%	Maximum Total Settlement
82	4,195,100	4,164,500	848.4	851.7	3.30	1.10%	
83	4,195,100	4,164,600	850.9	853.2	2.30	1.00%	
84	4,195,100	4,164,700	853.3	855.7	2.40	0.10%	
85	4,195,100	4,164,800	853.9	856.6	2.70	0.30%	
86	4,195,100	4,164,900	854.0	855.9	1.90	0.80%	
87	4,195,100	4,165,000	852.0	853.1	1.10	0.80%	
88	4,195,100	4,165,100	850.6	850.3	-0.30	1.40%	
89	4,195,100	4,165,200	Outside, or near edge of waste				
90	4,195,100	4,165,300					
91	4,195,100	4,165,400					
92	4,195,000	4,163,800					
93	4,195,000	4,163,900	834.8	836.0	1.20	1.20%	
94	4,195,000	4,164,000	835.6	838.5	2.90	1.70%	
95	4,195,000	4,164,100	835.4	838.1	2.70	0.20%	
96	4,195,000	4,164,200	839.2	842.2	3.00	0.30%	

TABLE 3. SHELDON ARLETA LANDFILL - COMPARISON OF SURFACE ELEVATIONS 1996 AND 2002 TOPOGRAPHIC MAPS

Point No.	NORTH	EAST	ELEV 2002	ELEV 1996	DIFFERENCE in FEET (=TOTAL SETTLEMENT)	DIFFERENTIAL SETTLEMENT % (to adjacent Point)	COMMENT
97	4,195,000	4,164,300	840.1	844.4	4.30	1.30%	
98	4,195,000	4,164,400	845.1	848.1	3.00	1.30%	
99	4,195,000	4,164,500	848.8	850.6	1.80	1.20%	
100	4,195,000	4,164,600	852.1	854.0	1.90	0.10%	
101	4,195,000	4,164,700	853.3	855.3	2.00	0.10%	
102	4,195,000	4,164,800	853.6	855.1	1.50	0.50%	
103	4,195,000	4,164,900	851.3	852.9	1.60	0.10%	
104	4,195,000	4,165,000	849.2	851.3	2.10	0.50%	
105	4,195,000	4,165,100	848.0	849.2	1.20	0.90%	
106	4,195,000	4,165,200	846.0	846.6	0.60	0.60%	
107	4,195,000	4,165,300					
108	4,195,000	4,165,400					
109	4,195,000	4,165,500					
110	4,194,900	4,163,800					
111	4,194,900	4,163,900					
112	4,194,900	4,164,000	832.6	835.0	2.40	2.40%	
113	4,194,900	4,164,100	833.6	837.2	3.60	1.20%	
114	4,194,900	4,164,200	837.3	840.8	3.50	0.10%	
115	4,194,900	4,164,300	840.7	843.0	2.30	1.20%	
116	4,194,900	4,164,400	843.8	846.1	2.30	0.00%	
117	4,194,900	4,164,500	847.0	849.8	2.80	0.50%	
118	4,194,900	4,164,600	850.0	852.4	2.40	0.40%	
119	4,194,900	4,164,700	852.4	854.1	1.70	0.70%	
120	4,194,900	4,164,800	851.3	852.0	0.70	1.00%	
121	4,194,900	4,164,900	847.5	849.2	1.70	1.00%	
122	4,194,900	4,165,000	844.1	846.5	2.40	0.70%	
123	4,194,900	4,165,100	841.9	843.1	1.20	1.20%	
124	4,194,900	4,165,200	839.2	840.0	0.80	0.40%	
125	4,194,900	4,165,300	844.2	844.5	0.30	0.50%	
126	4,194,900	4,165,400					
127	4,194,900	4,165,500					
128	4,194,900	4,165,500					
129	4,194,800	4,163,900					
130	4,194,800	4,164,000	830.1	833.6	3.50	3.50%	
131	4,194,800	4,164,100	832.6	836.3	3.70	0.20%	
132	4,194,800	4,164,200	836.4	838.8	2.40	1.30%	
133	4,194,800	4,164,300	840.0	841.6	1.60	0.80%	
134	4,194,800	4,164,400	844.0	846.1	2.10	0.50%	
135	4,194,800	4,164,500	846.0	848.7	2.70	0.60%	
136	4,194,800	4,164,600	848.2	851.9	3.70	1.00%	
137	4,194,800	4,164,700	850.1	852.0	1.90	1.80%	
138	4,194,800	4,164,800	848.4	849.7	1.30	0.60%	
139	4,194,800	4,164,900	844.0	845.7	1.70	0.40%	
140	4,194,800	4,165,000	841.9	843.6	1.70	0.00%	
141	4,194,800	4,165,100	839.6	842.5	2.90	1.20%	
142	4,194,800	4,165,200	838.0	838.1	0.10	2.80%	
143	4,194,800	4,165,300					
144	4,194,800	4,165,400					
145	4,194,800	4,165,500					

Outside, or near edge of waste

Outside, or near edge of waste

Outside, or near edge of waste

TABLE 3. SHELDON ARLETA LANDFILL - COMPARISON OF SURFACE ELEVATIONS 1996 AND 2002 TOPOGRAPHIC MAPS

Point No.	NORTH	EAST	ELEV 2002	ELEV 1996	DIFFERENCE in FEET (=TOTAL SETTLEMENT)	DIFFERENTIAL SETTLEMENT % (to adjacent Point)	COMMENT
146	4,194,700	4,164,000					
147	4,194,700	4,164,100	832.1	834.3	2.20	2.20%	
148	4,194,700	4,164,200	836.0	838.1	2.10	0.10%	
149	4,194,700	4,164,300	841.2	842.2	1.00	1.10%	
150	4,194,700	4,164,400	843.5	844.0	0.50	0.50%	
151	4,194,700	4,164,500	843.7	844.1	0.40	0.10%	
152	4,194,700	4,164,600	846.5	848.0	1.50	1.10%	
153	4,194,700	4,164,700	844.7	848.8	4.10	2.60%	
154	4,194,700	4,164,800	844.0	847.0	3.00	1.10%	
155	4,194,700	4,164,900	841.9	844.6	2.70	0.30%	
156	4,194,700	4,165,000	841.1	842.6	1.50	1.20%	
157	4,194,700	4,165,100	840.0	841.0	1.00	0.50%	
158	4,194,700	4,165,200					
159	4,194,700	4,165,300					
160	4,194,700	4,165,400					
161	4,194,600	4,164,000	Outside, or near edge of waste				
162	4,194,600	4,164,100					
163	4,194,600	4,164,200					
164	4,194,600	4,164,300					
165	4,194,600	4,164,400					
166	4,194,600	4,164,500					
167	4,194,600	4,164,600	834.4	836.0	1.60	1.60%	
168	4,194,600	4,164,700	840.3	840.7	0.40	1.20%	
169	4,194,600	4,164,800	842.0	842.2	0.20	0.20%	
170	4,194,600	4,164,900	842.7	843.0	0.30	0.10%	
171	4,194,600	4,165,000	842.0	844.0	2.00	1.70%	
172	4,194,600	4,165,100	841.4	845.7	4.30	2.30%	
173	4,194,600	4,165,200	841.9	844.5	2.60	1.70%	
174	4,194,600	4,165,300	840.3	842.2	1.90	0.70%	
175	4,194,500	4,164,100	835.9	836.0	0.10	1.80%	
176	4,194,500	4,164,200					
177	4,194,500	4,164,300					
178	4,194,500	4,164,400					
179	4,194,500	4,164,500					
180	4,194,500	4,164,600					
181	4,194,500	4,164,700	Outside, or near edge of waste				
182	4,194,500	4,164,800					
183	4,194,500	4,164,900					
184	4,194,500	4,165,000					
185	4,194,500	4,165,100					
186	4,194,500	4,165,200					
187	4,194,400	4,164,200	836.5	839.2	2.70	2.70%	
188	4,194,400	4,164,300	837.2	838.5	1.30	1.40%	
189	4,194,400	4,164,400	835.8	840.0	4.20	2.90%	
190	4,194,400	4,164,500	840.3	843.1	2.80	1.40%	
191	4,194,400	4,164,600	841.8	842.2	0.40	2.40%	
192	4,194,400	4,164,700	839.9	840.0	0.10	0.30%	
193	4,194,400	4,164,800					
194	4,194,400	4,164,900	Outside, or near edge of waste				
			829.1	830.0	0.90	0.90%	
			836.0	840.1	4.10	3.20%	
			841.0	842.6	1.60	2.50%	
			841.3	841.3	0.00	1.60%	

TABLE 3. SHELDON ARLETA LANDFILL - COMPARISON OF SURFACE ELEVATIONS 1996 AND 2002 TOPOGRAPHIC MAPS

Point No.	NORTH	EAST	ELEV 2002	ELEV 1996	DIFFERENCE in FEET (=TOTAL SETTLEMENT)	DIFFERENTIAL SETTLEMENT % (to adjacent Point)	COMMENT
195	4,194,400	4,165,000					
196	4,194,300	4,164,400					
197	4,194,300	4,164,500					
198	4,194,300	4,164,600					
199	4,194,300	4,164,700					
200	4,194,300	4,164,800					
201	4,194,300	4,164,900					
202	4,194,200	4,164,400					
203	4,194,200	4,164,500					
204	4,194,200	4,164,600					
205	4,194,200	4,164,700					
206	4,194,100	4,164,600					
		AVERAGES			1.63	0.92%	
					Feet	Percent	

Outside, or near edge of waste

Appendix C

KLEINFELDER
An employee owned company

August 27, 2004
Project No. 46824-1

Mr. Michael Brown
Manager, Geotechnical Engineering Division
City of Los Angeles Department of Public Works
Bureau of Engineering, Geotechnical Engineering Division (GED)
650 South Spring Street, Suite 600
Los Angeles, California 90014-1911
Attention: Mr. Theo Seeley, PE, GE

Subject: **Report of Geotechnical Study for the Permanent Structures for The Proposed Athletic Fields at Sheldon-Arleta Landfill, 12455 Wicks Street Sun Valley, Los Angeles, California (Map Book 26, Page 15, Block 325) Contract No. C-98923, W.O.E1700500**

Dear Mr. Brown:

Kleinfelder, Inc. (Kleinfelder), is pleased to present this report of geotechnical study for the Proposed Athletic Fields at the Sheldon-Arleta Landfill in Los Angeles, California. This report presents the results of recent geotechnical borings and laboratory testing and geotechnical recommendations for the proposed improvements for the Proposed Athletic Fields. Also included in this report are the results of previous borings and Cone Penetration Tests (CPTs) and laboratory testing by Kleinfelder and General Services Division of Standards of the City of Los Angeles. Kleinfelder previously provided geotechnical consultation services regarding future settlement of the landfill. Siting of the proposed building improvements outside the limit of the landfill by others was based on previous consultation services provided by Kleinfelder and on recommendations by the Bureau of Engineering, Geotechnical Engineering Division (GED). The proposed athletic fields were located in less desirable areas from a geotechnical standpoint where significant settlement is anticipated. This was due to other overriding considerations. Additional settlement evaluations and analyses were not included in our current authorized scope of work.

The results and recommendations of this report are in general conformance with the landfill cap performance analyses and related documents prepared by Kleinfelder. The conclusions and recommendations presented in this report are subject to the limitations presented in Section 5.

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KLEINFELDER 1370 Valley Vista Drive, Suite 150, Diamond Bar, CA 91765-3910 (909) 396-0335 (909) 396-1324 fax

1 INTRODUCTION

1.1 INTRODUCTION

Kleinfelder, Inc. (Kleinfelder), was retained by the City of Los Angeles, Department of Public Works/Bureau of Engineering/Geotechnical Engineering Division (GED), to conduct a geotechnical investigation for the proposed improvements for the Proposed Athletic Fields at the Sheldon-Arleta Landfill in Los Angeles, California. The location of the site is shown on Plate 1, Site Vicinity Map. The scope of our services for this investigation was presented in our proposal dated July 7, 2004. Notice to proceed (NTP) for this assignment was issued by the City of Los Angeles in their letter dated July 7, 2004 (Work Order No. E1700500, under Contract No. C-98923).

This report presents the results of recent geotechnical borings and laboratory testing and geotechnical recommendations for the proposed improvements for the Proposed Athletic Fields. Kleinfelder previously provided geotechnical consultation services regarding future settlement of the landfill. Siting of the proposed structures around the perimeter of the site was based on previous consultation services provided by Kleinfelder and on recommendations by the Bureau of Engineering, Geotechnical Engineering Division (GED). The proposed athletic fields were located in less desirable areas from a geotechnical standpoint where significant settlement is anticipated. This was due to other overriding considerations. As such, additional settlement evaluations and analyses were not included in our current scope of work.

Also included in this report are the results of previous borings and Cone Penetration Tests (CPTs) and laboratory testing by Kleinfelder and General Services Division of Standards of the City of Los Angeles (DGS). The current results of settlement monuments that were installed previously by Kleinfelder at the project site are also included in this report. The work discussed above was conducted between December 2003 and July 2004.

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Fluctuations of the groundwater level, localized zones of perched water, and soil moisture content should be anticipated during and following the rainy season. Irrigation of landscaped areas on or immediately adjacent to the site can also cause a fluctuation of local groundwater levels. The site is located down gradient of the Hansen and Tujunga spreading grounds. Operation of these spreading grounds may contribute to elevated levels of soil moisture or perched groundwater (USGS, 1966). The clay barrier discussed in Section 1.6 of this report was reportedly constructed to reduce water seepage from the spreading grounds into the landfill.

2.3 SETTLEMENT OF THE LANDFILL CAP

As mentioned previously, Kleinfelder installed 10 settlement monuments (the "B" series monuments) as part of our March 2, 2004 geotechnical consultation report and 10 additional settlement monuments (the "SM" series monuments) as part of our May 4, 2004 draft report. The monitoring of the settlement monuments was conducted by the City of Los Angeles and was provided to Kleinfelder by GED for inclusion with this report. Settlement monitoring data was provided for the "B" series monuments (B-3 through B-10, B-13, & B-14) and the "SM" series monuments (SM-1 through SM-10). The monitoring periods are summarized below:

- "B" series monuments: February 24, 2004 through July 21, 2004 (148 days or 0.40 year)
- "SM" series monuments: May 17, 2004 through July 21, 2004 (65 days or 0.18 year).

The results of the monitoring data of the "B" and "SM" series settlement monuments are presented in Tables 1A and 1B below. The settlement magnitudes have been annualized for obtaining a rough annual estimate only and are presented in Tables 1A and 1B. These settlement monitoring results should be used with caution because they only reflect a short period of time. Please note that the time scaling factor of the "SM" series is more than double of that of the "B" series. Secondly, a higher time scale factor will tend to magnify the annualized settlement. Also, note that the settlement data has been developed during the dryer months of the year. The rate of settlement is typically impacted by rainfall and generally, higher settlements occur following periods of intense rainfall.

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Table 1A - Settlement Data for "B" Series Monuments
Monitoring Period: February 24 – July 21, 2004 ~ 0.4 year

Monuments	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-13	B-14
Settlement in 0.4 Year (Feet)	0.04	0.08	0.18	0.16	0.10	0.08	0.08	0.09	0.07	0.02
Annualized Settlement (Feet)	0.10	0.20	0.44	0.40	0.25	0.20	0.20	0.22	0.17	0.05

Table 1B - Settlement Data for "SM" Series Monuments
Monitoring Period: May 17 – July 21, 2004 ~ 0.18 year

Monuments	SM-1	SM-2	SM-3	SM-4	SM-5	SM-6	SM-7	SM-8	SM-9	SM-10
Settlement in 0.18 Year (Feet)	0.05	0.08	0.03	0.04	0.01	0.02	0.08	0.04	0.05	0.06
Annualized Settlement (Feet)	0.28	0.45	0.17	0.23	0.05	0.11	0.45	0.23	0.28	0.34

The above settlement data set indicates that settlement of varying magnitude appears to be occurring over the area of the landfill. Settlement of the landfill is anticipated to continue in the future. Monitoring of the settlement should continue following grading of the site. We anticipate that once the settlement monitoring program is conducted over an extended period of time, the general trend of settlement may be assessed with a greater accuracy that will facilitate in developing an appropriate maintenance program. In absence of any other settlement monitoring data, the current data set may be used in conjunction with other previously presented settlement evaluations for initial planning purposes.

The "SM" monuments were installed with the anticipation that cut and fill grading will occur and were designed to be adjusted during grading. The monuments shall be protected in place during site grading. Details regarding the construction of the "B" monument are presented in Appendix A and a typical detail of the construction of the" monuments is presented as Plate 3, Settlement Monument. The details may be referred to for adjustments for future and post grading use. A survey of each monument should be conducted immediately before and after the monument is adjusted (cut or added onto).

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REVISION DATES (DESIGN STAGE ONLY)

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Sheet Version 2.2

SHELDON ST.

PROPOSED RESTROOMS

SHARP AVE.

ARLETA AVE.

WICKS ST

PROPOSED SOCCER FIELDS

PROPOSED BASEBALL FIELD

PROPOSED BASEBALL FIELD

EXISTING FLARE STATION

APPROXIMATE LOCATION OF PROPOSED FLARE STATION

PROPOSED BASKETBALL COURTS

PROPOSED CONCESSION STAND AND RESTROOMS

B-1 B-2 B-3A B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12 B-13 B-14 B-15 B-16 B-17 B-18 B-19 B-20 B-21 B-22 B-23 B-24 B-25 B-26 B-27 B-28 B-29 B-30 B-31 B-32 B-33 B-34

S-1 S-2 S-3 S-4A S-5 S-5A S-6

SM-1 SM-2 SM-3 SM-4 SM-5 SM-6 SM-7 SM-8 SM-9 SM-10

CPT-1 (18') CPT-2 (22') CPT-3 (25') CPT-4 (10') CPT-5 (11') CPT-6 (25') CPT-7 (10') CPT-8 (CALIBRATION CPT) (19') CPT-9 (10') CPT-10 (18') CPT-11 (10')

CPT-AL1 3 2 1 (25') (39') (25') (20')

CPT-AL2 4 3 2 1 (25') (57') (25') (25')

CPT-AL3 4 3 2 1 (25') (35') (39') (41')

CPT-AL4 3 2 1A 1B (25') (25') (11') (10')

CPT-AL5 3 2 1 (25') (20') (11')

CPT-AL6 2 1 (18') (10')

102 Δ 845.35

101 Δ 842.05

33 Δ 824.40

32 Δ 838.56

0 50 FEET

EXPLANATION

- B-14 ◆ APPROXIMATE SOIL BORING LOCATION AND NUMBER WITH SETTLEMENT PROBE INSTALLED (KLEINFELDER REPORT, 03/04)
- B-12 ◆ APPROXIMATE SOIL BORING LOCATION AND NUMBER (KLEINFELDER REPORT, 03/04)
- SM-10 ◉ SETTLEMENT MONUMENT LOCATION AND NUMBER (KLEINFELDER REPORT, 03/04)
- B-34 ⊕ APPROXIMATE SOIL BORING LOCATION AND NUMBER (KLEINFELDER DRILLED, 07/04)
- S-6 ◆ APPROXIMATE SOIL BORING LOCATION AND NUMBER (DPR REPORT, 06/04)
- CPT-10 ▲ CPT LOCATION
- CPT-AL2 ▲▲▲▲ 3 2 1 (10') CPT ALIGNMENT LOCATION DEPTH OF CPT
- F F' CROSS-SECTION LOCATION

CITY OF LOS ANGELES — DEPARTMENT OF PUBLIC WORKS — BUREAU OF ENGINEERING

JON KIRK MUKRI — GENERAL MANAGER
DEPARTMENT OF RECREATION & PARKS

SHEET TITLE: PLOT PLAN
PROJECT: SHELDON ARLETA PARK
ADDRESS: 12455 WICKS STREET SUNVALLEY, CA.

GARY LEE MOORE, P.E. — CITY ENGINEER

DESIGN GROUP	DATE:
ENGINEER: LIC. NO.	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

THIS PLAN WAS ELECTRONICALLY SIGNED AND STAMPED.

KLEINFELDER

KLEINFELDER, INC.
1370 VALLEY VISTA DRIVE, SUITE 150
DIAMOND BAR, CA. 91765
TEL: (909) 396-0335
FAX: (909) 396-1324

No.	REVISIONS:	DATE:	BY:
	C1: 50% DEVELOPMENT	06.21.04	-

INDEX NO.

STRUCTURE NO.

LA DPW ENGINEERING Service the Present : Designing the Future

WORK ORDER NO.

DRAWING NO. 2 SHEET OF SHEETS

Project: Sheldon Arleta Rec Center
Subject: Landfill Settlement Calculations

Date: March 9, 2021
By: Benjamin Moore

Calculation: From Aug 27, 2002

$$\Delta H = H \cdot [C_s/(1+e)] \cdot \log(t_2/t_1)$$ Secondary Consolidation

if $H \cdot [C_s/(1+e)] = \mu$ = Base Year = 1984 per rept

$$\Delta H_{t_2-t_1} = \mu \log(t_2/t_1)$$

$$\mu = \frac{\Delta H_{t_2-t_1}}{\log t_2/t_1}$$

$$\Delta H_{t_y-t_x} = \mu \log(t_y/t_x) = \Delta H_{t_2-t_1} \frac{\log(t_y/t_x)}{\log(t_2/t_1)}$$

2003-2004 Settlement from BH-9

$$\Delta H_{2004-2003} = \Delta H_{2002-1996} \cdot \frac{\log[(2004-1984)/(2003-1984)]}{\log[(2002-1989)/(1996-1984)]}$$

$$= 2 \cdot \frac{\log(20/19)}{\log(18/12)} = 0.25 \text{ ft}$$

for 1990 base year = 0.21

2003-2004 Settlement from BH-10

$$\Delta H_{2004-2003} = 2.65 \frac{\log(20/19)}{\log(18/12)} = 0.34 \text{ ft}$$

for 1990 base year = 0.28

2021-2026 Settlement from BH-10 (1984 as base year)

$$\Delta H_{2026-2021} = 2.65 \frac{\log[(2026-1984)/(2021-1984)]}{\log[(2002-1984)/(1996-1984)]}$$

$$= 2.65 \frac{\log(42/37)}{\log(18/12)} = 0.83 \text{ ft} \approx 2 \text{ in/yr}$$

For 1990 Base Year, 2021-2026 settlement = 0.57 ft ≈ 1.4 in/yr

2014 to 2021 Settlement, BH-10, 1984 Base Year

$$= 2.65 \frac{\log(37/30)}{\log(18/12)} = 1.37 \text{ ft} = 16.4 \text{ inch}$$

Appendix D

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-1 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 526' NE/o NECF Arleta Av & 257' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		SC	Brown clayey sand; moist and firm; landfill cap.		
5	11/6 14/6			9.0	129
10	7/6 5/6		Encountered a 2' silty sand lense at 9' depth. Soil color changed to dark gray at 11' depth.	8.2	114
15			Encountered landfill debris (trash) at 14' depth.		
20			---		
25			No free water.		
30			---		
35			Test Boring Location Coordinates: 34° 13' 32.60" North 118° 24' 23.36" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-2 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 617' NE/o NECF Arleta Av & 271' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0 5 10 15 20 25 30 35	7/6 8/6	SC	Brown silty clay/clayeysilt with some sand; moist and firm; landfill cap. Soil color changed to dark gray at 7' depth. Encountered landfill depbris (trash) at 9'depth.	11.9	123
			--- No free water. --- Test Boring Location Coordinates: 34° 13' 33.27" North 118° 24' 22.70" West ---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-3 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 629' NE/o NECF Arleta Av & 312' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0 5 10 15 20 25 30 35	6/6 8/6 7/6 7/6	SC	Brown clayey sand; moist and firm; landfill cap.	11.3	125
			Soil color changed to dark gray at 7' depth.	8.5	118
			Encountered landfill depbris (trash) at 14'depth.		

			No free water.		

			Test Boring Location Coordinates: 34° 13' 32.60" North 118° 24' 22.97" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-4 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 630' NE/o NECF Arleta Av & 346' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		CL-ML	Brown silty clay/clayey silt with some sand; moist and firm; landfill cap.		
5	8/6 9/6			13.1	119
10	6/6 6/6		Soil color changed to dark gray at 9' depth, with decreasing density and a moderate organic odor.	14.5	110
15	4/6 3/6			13.9	109
20			Encountered landfill depbris (trash) at 17'depth.		
25			---		
30			No free water.		
35			---		
			Test Boring Location Coordinates: 34° 13' 33.77" North 118° 24' 23.37" West		
			---		

1 0 8 1 2 2 3 2 0 1 5 8 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-5 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 701' NE/o NECF Arleta Av & 350' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		CL-ML	Brown silty clay/clayey silt with some sand; moist and firm; landfill cap.		
5	7/6 9/6			11.0	125
10			Encountered landfill depbris (trash) at 9'depth.		
15					
20			---		
25			No free water.		
30			---		
35			Test Boring Location Coordinates: 34° 13' 34.41" North 118° 24' 22.63" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 8 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-6 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 705' NE/o NECF Arleta Av & 225' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		SM	Brown silty fine-medium sand with a trace of gravel; moist and dense.		
5	9/6 15/6			7.5	125
10	11/6 12/6	SP-SM	Gray poorly graded fine-medium sand with some silt and gravel; moist and dense; native alluvium.	3.6	116
15			Boring caved-in 5' at 15' depth; boring terminated per engineer.		
20			---		
25			No free water.		
30			---		
35			Test Boring Location Coordinates: 34° 13' 33.59" North 118° 24' 21.41" West		
			---		

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

LOG OF TEST BORING

LAB. NO.: 140- 5966 **PROJECT:** Sheldon-Arleta Park, Cesar Chavez Sports Complex

BORING NO.: BB-7 **ELEVATION:** - **DRILLING DATE:** 08/23/2013

BORING LOCATION: 807' NE/o NECF Arleta Av & 230' NW/o NWCF Wicks St

DRILL RIG TYPE: CME-75HT drill rig using 6" diameter conventional flight augers

DEPTH TO STANDING WATER: None **DEPTH TO WATER SEEPAGE:** None

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** Seeley

ELEVATION / DEPTH (ft)	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
0		CL-ML	Brown silty clay/clayey silt with some sand and gravel; moist and firm.		
5	8/6 10/6			11.2	122
10	8/6 10/6	SP-SM	Gray poorly graded fine-medium sand with some silt and gravel; moist and dense; native alluvium.	1.5	122
15			Boring caved-in 5' at 15' depth; boring terminated per engineer. --- No free water. --- Test Boring Location Coordinates: 34° 13' 34.32" North 118° 24' 20.59" West ---		
20					
25					
30					
35					

1 0 6 1 2 2 3 2 0 1 5 0 2 9 7 7

CITY OF LOS ANGELES - STANDARDS DIVISION

Appendix E

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

VAN AMBATIELOS
PRESIDENT

JAVIER NUNEZ
VICE PRESIDENT

JOSELYN GEAGA-ROSENTHAL
GEORGE HOVAGUIMIAN
ELVIN W. MOON

CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

SOILS REPORT APPROVAL LETTER

May 26, 2021

LOG # 117286
SOILS/GEOLOGY FILE - 2
LIQ

City of Los Angeles; BOE Architectural Division
1149 S. Broadway, 8th Floor
Los Angeles, CA 90015

TRACT: 14137 // The Maclay Rancho (MR 37-5/16)
LOT(S): 1-5 // Fr 325
LOCATION: 12455 W. Wicks St. // 12600 W. Sheldon St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Request for Modification	27675	04/28/2021	LADBS
Addendum Report	03-053	04/08/2021	City of LA - GED

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Approval Letter	112671	04/09/2020	LADBS
Supplemental Report	03-053	03/12/2020	City of LA - GED
Dept. Approval Letter	109182	08/07/2019	LADBS
Request for Modification	26633	08/07/2019	LADBS
Update Report	03-053	06/11/2019	City of LA – GED
Dept. Approval Letter	83272	02/28/2014	LADBS
Soils Report	03-053	02/11/2014	City of LA - GEO
Soils Report	03-053	02/07/2014	City of LA - GEO
Dept. Approval Letter	75610R	12/21/2011	LADBS
Soils Report	W.O. E1700618	12/13/2011	Geotech. Eng. Group (GEO)
Soils Report	W.O. E1700618	11/10/2011	Geotech. Eng. Group (GEO)
Dept. Approval Letter	45346	10/19/2004	LADBS
Soil Report	--	08/27/2004	GED

The Grading Division of the Department of Building and Safety has reviewed the current referenced 04/08/2021 report that provides recommendations for the proposed bleachers for the baseball field at Cezar Chavez Park (Sheldon Arleta Landfill) Phase IIIC project, as shown on Figures 2 & 3 in the 04/08/2021 report. According to the consultants, the small bleachers are located within the limits of the landfill, and are comprised of light-weight steel frame structures about 21 feet by 9.5 feet in plan view and with 5 rows of seating.

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

The consultants recommend to support the proposed bleacher structures on a minimum 12 inch thick mat foundations bearing on a blanket of properly placed fill a minimum of 12 inches thick below the bottom of the foundations. According to the consultants, the bleacher mat foundations and properly placed fill will be placed over uncertified fill and landfill deposits.

According to the consultants, it is estimated that future settlement of the bleachers will be up to 2 inches per year between 2021 and 2026, with up to 1.3 inches per year of differential settlement. The consultants propose to design the bleachers with the ability to re-level the structures as needed (see pg. 5 of the 04/08/2021 report). As such, and according to the consultants, the bleachers will require significant maintenance over their service life.

A Request for Modification (RFM) of Building Ordinances (file 27675, dated 04/28/2021) was approved by the Grading Division of the Department of Building and Safety on 05/26/2021 to allow placing the bleacher mat foundations and properly placed fill over uncertified fill and landfill deposits. A letter from the City of Los Angeles, Department of Public Works dated 04/28/2021, has been prepared acknowledging the risks and hazards of potential settlement of the proposed structures located on the existing uncertified fill and landfill deposits, and that they agree to be responsible for future maintenance and repairs for any such soil settlement. The letter is attached to the current referenced 04/08/2021 report in Appendix E.

The Department previously conditionally approved the above referenced report dated 03/12/2020 in a letter dated 04/09/2020 (Log#112671) providing supplemental recommendations including revising the restroom/office/storage facility from a raised floor foundation to an integrated slab-on-grade foundation to be supported on a prepared graded pad, as described on page 2 of the 03/12/2020 report. In addition, clarifications were provided and included those for the design and support of non-asphaltic parking areas and new light poles, as described on pages 1 to 5 of the 03/12/2020 report. The consultants recommended to support the proposed structure(s) on conventional foundations bearing on native undisturbed soils or properly placed fill a minimum of 3 feet thick, or alternatively the improvements may be supported on drilled-pile foundations bearing in native undisturbed soils. The earth materials at the subsurface exploration locations consisted of up to 7 feet of uncertified fill underlain by native soils. Per the consultants, groundwater was not encountered to the maximum depths explored of 51.5 feet, and historically highest groundwater level is between 140 and 150 feet below the surface.

Prior to that, the Department previously conditionally approved the above referenced update report dated 06/11/2019 and associated Request for Modification for the design and construction of the proposed Cezar Chavez Park (Sheldon Arleta Landfill) Phase IIIC project in a letter dated 08/07/2019, Log #109182. The project consisted of improvements at the south side of the park along Wicks Street, as described on pages 2 & 3 of the 06/11/2019 report. The improvements included a new restroom/office facility, parking lot, basketball court, children's play area, and a baseball field with a backstop, as shown on Figures 2A and 2B in the 06/11/2019 report. Per the consultants, most of the improvements would be located outside of the landfill area with the exception of the parking lot, which will partially extend over the landfill area, and the baseball field and backstop that will be located within the landfill area. The consultants recommended to support the proposed structure(s) on conventional foundations bearing on properly placed fill a minimum of 3 feet thick below the bottom of the footings. According to the consultants, for improvements outside the limits of the landfill, all existing fill within the proposed building or other structural foundations shall be over-excavated to suitable undisturbed natural soil and replaced with compacted fill (see pgs. 9 & 10 in the 06/11/2019 report). A Request for Modification (RFM) to allow existing uncertified fill for support of concrete slabs and new fill for the proposed basketball court, parking lot, and areas below non-structural planter and fence walls,

as described on page 10 of the 06/11/2019 report, was approved by the Department (Mod # 26633, dated 08/07/2019).

Prior to that, the Department conditionally approved the above referenced reports for the proposed improvements in the above referenced letters (see pgs. 8 & 9 in the 06/11/2019 report).

The current referenced 04/08/2021 report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. All conditions of the above referenced Department approval letter dated 04/09/2020 (Log#112671) shall apply, except as specifically modified herein.

2. All the latest recommendations of the report(s) that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

3. A grading permit shall be obtained for all structural fill (106.1.2).

4. Compacted fill shall extend beyond the footings a minimum distance of 3 feet, as recommended.

5. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3), except as approved in the above referenced RFM.

6. All foundations for the proposed bleachers shall derive entire support from a blanket of properly placed fill a minimum of 12 inches thick below the bottom of the foundations, as recommended and approved by the soils engineer by inspection.

7. The proposed bleacher structures shall be supported on a minimum 12 inch thick mat foundations, as recommended.

GLEN RAAD
Geotechnical Engineer I

Log No. 117286
213-482-0480

cc: City of LA - GED, Project Consultant
VN District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District	Log No.
VN	117286

APPLICATION FOR REVIEW OF TECHNICAL REPORTS

INSTRUCTIONS

A. Address all communications to the Grading Division, LADBS, 221 N. Figueroa St., 12th Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.
B. Submit two copies (three for subdivisions) of reports, one "pdf" copy of the report on a CD-Rom or flash drive, and one copy of application with items "1" through "10" completed.
C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract: 14137; The Maclay Rancho (MR 37-5/16)
Block: _____ Lots: 1-5; Fr 325

2. PROJECT ADDRESS:
12455 W. Wicks St.; 12600 W. Sheldon St.

3. OWNER: City of Los Angeles; BOE Architectural Division
Address: 1149 S Broadway, 8th Floor
City: Los Angeles Zip: 90015
Phone (Daytime): (213) 485-4736

4. APPLICANT City of LA - GED (Benjamin Moore)
Address: 1149 S Broadway, Ste 120
City: Los Angeles Zip: 90015
Phone (Daytime): (213) 847-0538
E-mail address: Benjamin.Moore@lacity.org

5. Report(s) Prepared by: City of LA - GED

6. Report Date(s): April 8, 2021

7. Status of project: ☑ Proposed ☐ Under Construction ☐ Storm Damage

8. Previous site reports? ☑ YES if yes, give date(s) of report(s) and name of company who prepared report(s)
8/27/04; 2/11/14; 6/11/19;3/12/2020 - by GED

9. Previous Department actions? ☑ YES if yes, provide dates and attach a copy to expedite processing.
Dates: 10/19/04 (Log 45346); 2/28/14 (Log 83272); 8/7/19 (Log 109182); 4/9/20 (Log 112761)

10. Applicant Signature: Benjamin Moore Digitally signed by Benjamin Moore Date: 2021.04.28 14:32:46-07'00' Position: Geotechnical Engineer II

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☐ Soils Engineering		No. of Lots	
☐ Geology		No. of Acres	
☐ Combined Soils Engr. & Geol.		☐ Division of Land	
☒ Supplemental	181.50	Other	
☐ Combined Supplemental		☐ Expedite	
☐ Import-Export Route		☐ Response to Correction	
Cubic Yards:		☐ Expedite ONLY	
		Sub-total	
		Surcharge	49.94
		TOTAL FEE	231.44

Fee Due: 231.44
Fee Verified By: ML Date: 4/28/21
(Cashier Use Only)

Los Angeles Department of Building and Safety
Metro 4th Floor 05/04/2021 3:14:39 PM
User ID: athomas
Receipt Ref Nbr: 2021124001-111
Transaction ID: 2021124001-111-1
GRADING REPORT $181.50
SYSTEMS DEV SURCH $10.89
GEN PLAN MAINT SURCH $12.71
DEV SERV CENTER SURCH $5.45
CITY PLAN SURCH $10.89
MISC OTHER $10.00
Amount Paid: $231.44
PCIS Number: N/A
Job Address: 12455 W WICKS ST / 12600 W SHELDON ST
Owners Name: CITY OF LOS ANGELES / BOE ARCHITECTURAL DIVISION

ACTION BY:

THE REPORT IS: ☐ NOT APPROVED
☐ APPROVED WITH CONDITIONS ☐ BELOW ☐ ATTACHED

For Geology _____ Date _____

For Soils _____ Date _____

CESAR CHAVEZ RECREATION COMPLEX
PHASE III C
ALSO KNOWN AS: SHELDON ARLETA PARK
PHASE III C

VI. ENVIRONMENTAL DOCUMENTATION

Department of Public Works
Bureau of Engineering
Architectural Division

ENGINEERING
CITY OF LOS ANGELES

FORM GEN. 160 (Rev. 11-02)

CITY OF LOS ANGELES
INTERDEPARTMENTAL CORRESPONDENCE

Date: August 24, 2021

To: Nur Malhis, Project Manager
Architectural Division

From: Maria Martin, Manager
Environmental Management Group

Digitally signed by Maria Martin
DN: cn=Maria Martin, o=Department of Public Works, ou=Bureau of Engineering, email=maria.martin@lacity.org, c=US
Date: 2021.08.24 16:34:08 -07'00'

Subject: California Environmental Quality Act (CEQA) Review: Summary of Relevant Findings and Mitigation Measures for Sheldon-Arleta Park E170163A

The CEQA lead agency, City of Los Angeles, adopted a *Mitigated Negative Declaration for the Sheldon-Arleta Park Project* on June 22, 2004. The Environmental Management Group reviewed CEQA documentation, see Attachment A, as it relates to the Phase III C work. The relevant findings of the Initial Study and Mitigated Negative Declaration and associated mitigation measures are summarized below:

Aesthetics
As indicated in the Initial Study, the project would create new light sources but would not create substantial light or glare that would adversely affect day or nighttime views in the area. The project site is vacant and surrounded by streets with street lighting. The project would include new security lighting. Certain areas of the park that were built on landfill cannot feasibly support the recommended 30-foot tall lighting posts as they will subside over time. As such, 35-foot high poles will be installed on non-landfill areas in order to maintain adequate levels of lighting for safety. Field lighting for night games is not currently proposed. A proposed screening and sound attenuation berm between the active recreation areas and the eastern margin of the park would shield residents along Sharp Avenue from most of the park lights.

Field lighting was originally proposed but was dropped due to funding and geotechnical considerations. However, it is reasonable to expect that field lighting could be proposed in the future if the current limitations are overcome. In the event that field lighting were proposed, and fixtures exceed 30 feet in height to maintain minimum lighting requirements, custom shields will be designed and installed to prevent excessive glare and light spillover. As such, this would not result in a significant impact.

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Section 4.1: Aesthetics, page 21. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 4, 10, 14.

Mitigation Measures

LG1: Parking lot lighting shall not exceed 30 feet in height and shielded to shine downward. Only low level security lighting (no field or parking areas) is allowed after

closing and only at the minimum level of illumination to identify unauthorized people on-site.

LG2: All night lights shall be shielded to shine only on the subject property, and no light bulb shall be visible from any adjacent property.

LG3: The maximum height of any identifying monument sign within 300 feet from residential properties shall not exceed 8 feet and shall not be lighted after closing time.

LG4: All field lighting shall be directional lighting aimed only at the playing field/seating areas.

LG5: Field lighting is allowed until 10 PM and then shall be turned off by automatic timer. Field lighting is allowed only for the active recreation areas.

Air Quality

Construction Emissions
Potentially significant emissions of nitrous oxides (NO_X) (daily emissions) and particulate matter of 10 microns or less (PM_{10}) (quarterly emissions) may occur during construction phases of the project.

With the implementation of the mitigation measures, the proposed project slightly exceeds the threshold for NO_X daily emissions. Since site grading will be done by the City and equipment temporarily reassigned from other sites in the air basin, the reactive organic compounds (ROC), NO_X, carbon monoxide (CO), sulfur oxides (SO_X), and PM_{10} emissions will be off-set by reductions elsewhere in the air basin and therefore are not considered significant. Due to the relatively limited amount of earthwork and the short duration of construction activities, air quality impacts resulting from the proposed project would not alter state or federal attainment status for criteria pollutants. Impacts from construction would be less than significant after mitigation.

Operational Emissions
Operational emissions are typically associated with vehicle trips generated by a land use. The recreation land use generates peak vehicles trips on weekends, which does not correspond with peak vehicle trip days (Monday-Friday). The proposed project would generate the greatest number of additional trips on the weekends during heavy use periods of the park. All operational emissions generated by the anticipated vehicle traffic would remain below the South Coast Air Quality Management District thresholds of significance. Operation of the proposed project would not conflict with or obstruct the implementation of the Air Quality Management Plan or alter state or federal attainment status for criteria pollutants.

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Section 4.3: Air Quality, pages 22-30. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 4-5, 10-11.

AQ1: All construction equipment shall be properly maintained and operated.

AQ2: Aqueous diesel fuels shall be used in all construction equipment, where feasible.

AQ3: Diesel oxidation catalysts shall be used in all construction equipment, where feasible.

AQ4: Land disturbance shall be minimized to the extent feasible.

AQ5: Disturbed land and open storage piles that will be left inactive for several days, shall be stabilized by one, or a combination, of the following methods: (a) applying a chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of 6 months, (b) covering, or (c) watering three times per day.

AQ6: Disturbed land that will not be paved as part of the project shall be revegetated as soon as possible.

AQ7: All active unpaved demolition and construction areas shall be wetted at least three times daily during excavation and construction. The construction area shall be sufficiently dampened to control dust caused by construction and hauling and at all times provide reasonable control of dust by wind.

AQ8: During periods of high winds (i.e., greater than 15 mph) either (a) cease all clearing, earth moving and excavation activities or (b) apply water to soil not more than 15 minutes prior to moving the soil.

AQ9: All truck loads of imported or exported soil or debris shall be either (a) securely covered or (b) comply with vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads and be sufficiently watered to prevent excessive amount of dust.

Biological Resources

A vegetation survey was conducted on February 4 and 5, 2004 to provide a baseline record of existing plants, to determine whether any rare, threatened or endangered plants are present, to characterize the vegetation community and to identify any potential wildlife habitat value.

Forty-one vascular plant species were noted. Few of these plants, seven to nine (17.1% to 22.0%), were native and the vast majority was exotic. The large number of nonnative species is indicative of a highly disturbed site, representative of no recognizable vegetation community. Many of the non-native plant species appear to have been planted as landscaping, but other species may have invaded as either ruderals or garden escapes. A limited number of native species has become established since the landfill's closure in 1974. Laurel sumac (*Malosma laurina*) was the most common. These species have been found in chaparral, alluvial scrub, oak woodland, and or riparian woodland type communities. Nevertheless, none of the individuals have collectively established a recognizable community.

Twenty species of trees and large shrubs were noted. Some of the larger specimens included ash (*Fraxinus americana*) and blue gum (*Eucalyptus globulus*). Of the native tree species, both a mature cottonwood (*Populus fremontii*) and a coast live oak sapling (*Quercus agrifolia*) were noted near the northeastern property boundary along Sharp Avenue. Some of the larger trees supported bird nests. Some clusters of trees and shrubs along the perimeter and near western portion of the property could provide some value as wildlife habitat. In all, the project site contains about 250-300 trees.

The California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants*, along with the California State Department of Fish and Game's Natural Diversity Database *(RAREFIND3* for the Van Nuys U.S.G.S. 7.5 minute Quadrangle), were consulted. The plants, animals and communities currently listed in these data bases are listed in Table 8. Five rare, threatened or endangered plant species have been reported in the general area. However, none of these five species have been report to occur on the project site and none was seen during the survey for this project. Two plant communities of concern (Riversidian Alluvial Scrub or California Walnut Woodland) are not present on the property.

The project site is adjacent to but not a part of the Tujunga Spreading Grounds Significant Ecological Area, which is a Class 8 SEA (12). Class 8 SEA's are special areas having notable biological features (nesting, feeding, resting ground, for many migrating, resident and wintering birds) but not habitat for species or of concern.

In all, the project site contains about 250-300 trees. Depending on the final grading plan, all of the existing trees may be removed. The exact number of trees to be planted in the proposed landscaping has not been determined, but the extensive landscaped buffer area and typical park landscaping provide ample opportunity for replacement of removed trees at more than a 2-1 ratio.

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Section 4.4: Biological Resources, pages 30-32. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 5-6, 11-12

DFG (1.b-c): b. Proposed project activities (including disturbances to native and nonnative vegetation, ground surfaces and man-made nesting substrates) should take place outside of the breeding bird season which generally runs from March 1- August 31 (as early as February 1 for raptors) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill (Fish and Game Code Section 86).

c. If the project activities cannot feasibly avoid the breeding bird season, the Department of Fish and Game recommends that beginning thirty days prior to the disturbance of suitable nesting habitat the project proponent should arrange for weekly bird surveys to detect any protected native birds in the habitat to be removed and any other such habitat within 300 feet or the construction work area (within 500 feet for raptors). The surveys should be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys should continue on a weekly basis with the last survey being conducted no more than three days prior to the initiation of clearance/construction work. If a protected native bird is found, the project proponent should delay all clearance/ construction disturbance activities in suitable nesting habitat or within 300 feet of nesting habitat (within 500 feet for raptor nesting habitat) until August 31 or continue the surveys in order to locate any nests. If an active nest is located, clearing and construction within 300 feet of the nest (within 500 feet for raptor nests) shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel should be instructed on the sensitivity of the area. The project proponent should record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds.

DFG (3,i): The Department of Fish and Game recommends using native plant materials in any project landscaping for their wildlife and water conservation values.

DFG (3,ii): The Department of Fish and Game recommends that artificial night lighting should be shielded or hooded so that light is directed to desired locations and not into landscaping areas and/or directly into the sky where light is disruptive to migrating birds and insects. Recent research indicates some types of light are less harmful to wildlife. In some studies, low-pressure sodium lights exhibit the least overall damage to wildlife. The Department of Fish and Game recommends the use of low-pressure sodium outdoor lights to reduce impacts to wildlife.

Geology and Soils

Landfill Cap Analysis – Model studies predict that with actively growing grass on the surface, the average annual rainfall plus the projected irrigation water application of one inch per week should not cause moisture to travel through the soil cap to the underlying waste (36). This model also shows that the evapotranspiration offered by the grass is an important part of the performance of the cap. Without the grass (and evapotranspiration), addition of similar amounts of water will saturate the cap. This means that it is important to match the addition of water with the capacity of the grass to uptake water. If this balance is upset, then the chance of inadvertently driving moisture down to the underlying waste is increased.

Geotechnical Feasibility – A preliminary geotechnical feasibility evaluation of improving the site for use as athletic fields was conducted in March, 2004 (37). Development of the site for athletic fields was deemed geotechnically feasible provided that the proposed site grading and improvements are designed, constructed and maintained in accordance with properly established geotechnical, as well as environmental, considerations. The primary geotechnical considerations are future total and differential settlement.

Maintaining Site Grades -- Surface settlement at the site was approximated by comparing the site's topography in 1996 with the site's topography in 2002 and estimated a park-wide settlement rate of 7.4 inches per year based generalized average approximate ground surface settlement data (37). That approximation assumed all topographical change was due to settlement. Since some topographic changes could have been produced by surface grading, additional observations were made (and are on-going) based on survey monuments specifically designed to track settlement. The current data indicate settlement since February has averaged 2.4 inches per year (measured rates varied from 0.8 to 4.4 inches per year). This implies that settlement in the active-use areas of the park (about 30 acres) will be about 10,000 cubic yards per year. The actual settlement will vary from these estimates and will impact the required import fill to satisfy the condition of annually importing fill to maintain site grades.

Settlement studies are continuing, therefore a detailed analysis of specific locations and proposed uses within the park is not available at this time.

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Section 4.6: Geology and Soils, pages 33-34. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 7, 12

G1: Subject to recommendations by the Local Enforcement Agency and approval by the Regional Water Quality Control Board Final, the cover inspection and maintenance

program of the Sheldon-Arleta Landfill Final Closure and Post-Closure Maintenance Plan shall be modified as follows: (a) routine evaluations and inspections shall be increased from “at least twice a year” to weekly inspections by park staff; (b) the number of survey monuments used to determine settling shall be increased from three to no less than 12; and (c) the frequency at which site settling (differential and total) is determined shall be increased from “once every 5 years” to annually.

G2: Subject to recommendations by the City Engineer and approval by the Department of Building and Safety, site improvements shall be consistent with the recommendations of the Geotechnical Data Report except those recommendations that are contrary to the general locations of active and passive uses as shown in the Conceptual Park Plan developed in community meetings.

Hazards, Hazardous Materials, Hydrology, and Water Quality

The proposed project will require modification of the final cover grades, requiring revision of the Sheldon/Arleta Landfill Final Closure and Post-Closure Maintenance Plan, following the requirements of the Regional Water Quality Control Board.

The project site contains about three million tons of residential and commercial refuse deposited from 1962 to 1974. The decomposing refuse generates hazardous gases and could generate toxic leachate if improperly managed. The Final Closure and Post-closure Maintenance Plan (26) identifies the potential risks and provides monitoring and response protocols to assure these hazards are properly managed. The Plan identifies the mechanisms to initiate any required investigation and/or remediation, and which government agency will provide appropriate regulatory oversite. Following the Plan as proposed will prevent significant risks to human health from the release of landfill gas and leachate and will prevent any significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The project is within one-quarter mile of Francis Polytechnic High School. In 2001, an endangerment assessment for Francis Polytechnic High School (30) concluded that past activities at or near the school (including the landfill) have impacted the environment but pose a low risk and hazard to the adult staff and students at the school. Gas emissions and leachate relating to the closed landfill will continue to be monitored and appropriately handled following the Final Closure and Post Closure Maintenance Plan, therefore the project will not be a significant risk to the school.

In 2002, SCS Engineers analyzed the safety of siting a major league baseball academy at the Sheldon Arleta Landfill (23). The academy was to consist principally of five baseball diamonds, one or more small grandstands, night lighting, and a 20,000 square foot clubhouse. SCS Engineers concluded that, “Landfill gas generation and release from the Sheldon Arleta Landfill would pose no significant health or safety risk to future outdoor users of a Baseball Academy.” In fact, SCS Engineers identified many

examples of recreational facilities built and successfully operated upon closed landfills, several in Southern California.

In 2004, Kleinfelder, Inc., performed a screening human health risk assessment for the currently proposed park project (38). The purpose of the assessment was to answer two key questions: are chemicals present in the landfill cap that may pose a hazard to human health, and if so, what level of hazard do they pose? Samples were taken to identify chemicals of potential concern. The magnitude, frequency, duration and pathways of potential exposure to these chemicals were evaluated. Cancer risk and noncancer hazard were then characterized.

The 2004 Kleinfelder study estimated that the sum of cancer risk estimates for soil ingestion, dermal contact, and dust inhalation is 2×10^{-6}, which slightly exceeds the target cancer risk of 1×10^{-6}. The sum of the noncancer hazard estimates for the same exposure pathways is 0.05, which is less than the target noncancer hazard index of 1.0. The study concluded that, although the calculated cancer risk slightly exceeds the target risk, about 99% of the risk is due to the use of the maximum soil concentration of arsenic as the exposure point concentration. The maximum concentration is likely to be a significant overestimate of the actual exposure point concentration because arsenic was detected in only 3 of 42 soil samples analysed. Soil mixing during site grading is likely to reduce localized peack concentrations. Furthermore, the existing surface soil will be covered with grass or pavement which will reduce or eliminate exposure to the fill material. Therefore, the probability of exposure to arsenic and the resulting cancer risk under actual conditions is expected to be much lower than that calculated. It is important to note that the State Department of Toxic Substance Control generally does not require action on proposed school sites where the cancer risk is only 2×10^{-6} or less. Kleinfelder concluded that further investigation or remediation is not warranted.

Methane Gas Ordinance -- On February 4, 2004 the City Council established citywide methane mitigation requirements, including more current construction standards to control methane intrusion into buildings (Council File 01-1305). The Council adopted an ordinance amending Section 91.106.4.1 and Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code to establish Citywide methane mitigation requirements. The requirements and standards will be met by the proposed project.

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Sections 4.7 & 4.8: Hazards and Hazardous Materials, and Hydrology and Water Quality, pages 34-36. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 7, 15

HAZ1: The site shall not be used for recreation until (a) a revised Final Closure and Post Closure Maintenance Plan has been approved by the California Integrated Waste Management Board and the California Regional Water Quality Control Board, Los

Angeles Region, and (b) the Local Enforcement Agency has determined that site improvements are consistent with the approved plan.

Noise

The project would result in temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. However, the elevation in noise levels will not be significant.

Most of the area surrounding the proposed site contains land uses that are not sensitive to ambient noise: the Route 130 Freeway, settling basins; commercial offices and a public high school's athletic fields. However, the eastern property line of the project site is 60 feet away from residences on Sharp Avenue. Residences are noise-sensitive land uses.

The site's current topography partially shields the residences on Sharp Avenue from noise generated by traffic on Wicks Street, Arleta Avenue, Sheldon Street and the Route 170 freeway.

Construction noise is presumed to be significant if the construction activies:

1. lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use (i.e. 58 dBA at the Sharp Ave residences);
2. lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use (i.e., 68 dBA at the Sharp Ave residences); or
3. would exceed the ambient noise level by 5 dBA at a noise-sensitive use (58 dbA at the Sharp Ave residences) at night (9:00 PM to 7:00 AM), Monday through Friday, or before 8:00 AM or after 6:00 PM on Saturday) or at anytime on Sunday (12).

The Los Angeles Municipal Code does not allow construction activities at night (9:00 PM to 7:00 AM), Monday through Friday, or before 8:00 AM or after 6:00 PM on Saturday or at anytime on Sunday. Therefore significance criterion 3 will be met.

The noisiest construction activity would be grading and trenching, estimated to be 86 dBA at 50 feet (12). Grading is expected to take several days. Typically, noise fades by 4.5 decibels for each doubling of the source-to-receptor distance in areas with soft surfaces. The center of the proposed park is about 700 feet away from the closest residences. Attenuation alone will reduce sound levels to 69 dBA. A significant impact from construction noise would be prevented by implementing the mitigation measures listed below.

A long-term increase of 5 dB over existing levels would be considered significant. Based on earlier, similar projects (31) we estimate the noise from the proposed athletic fields

while in use would be 74 dBA if measured at a distance of 50 feet. The additive effects of a group of fields could produce noise at 77 dBA. The nearest field will be about 400 feet from the nearest residence. In the proposed park setting, the noise can be expected to decrease by 4.5 dB for each doubling of the distance between source and receptor, so a 77 dBA sound source would be reduced to 65 dBA at a distance of 400 feet. To reach a level below 58 dB, the fields would have to be shielded by a noise barrier providing 19 dB. This level of sound reduction can be easily provided by a sound wall or berm.

The project includes creation of a buffer area and a sound attenuation berm between the active recreation areas and the residences on Sharp Avenue. Significant impacts from construction or operational noise would be avoided with mitigation measures.

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Section 4.11: Noise, pages 37-39. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 8, 15

N4: Amplified sound shall be regulated by the Department of Recreation and Parks such that amplified sound shall not cause exterior noise levels at residences along Sharp Avenue to exceed the city's maximum noise standards for a residential zone. More and smaller speakers shall be used in lieu of fewer and louder speakers and the speakers shall be oriented to project sound away from Sharp Avenue.

Transportation / Traffic

Impacts
Less than significant after mitigation.

Reference: Sheldon-Arleta Park IS/MND, Section 4.15: Transportation / Traffic, pages 40-57. Mitigation Monitoring Program for Sheldon-Arleta Park dated June 2004, pages 8-9, 12-13

T5: The project manager or designee shall notify the LAUSD Transportation Branch (323-227-4400) of the expected start and ending dates for various portions of the project that may affect traffic through the area.

T6: Safe and convenient pedestrian routes to John Francis Polytechnic High School shall be maintained.

T7: Ongoing communication shall be maintained with the administrator of John Francis Polytechnic High School, providing sufficient notice to forewarn staff, children and parents when existing pedestrian and vehicular routes to school will be impacted.

T8: Appropriate traffic control (signs and signals) shall be employed as needed to ensure pedestrian and vehicular safety.

T9: Haul routes shall not include streets adjacent to John Francis Polytechnic High School when school is in session.

T10: Streets adjacent to John Francis Polytechnic High School shall not be used for staging or parking of construction vehicles, including vehicles used to transport construction personnel.

T11: Barriers shall be erected as needed to minimize unauthorized entry onto the construction site.

T12: Security patrols shall be provided as needed to minimize unauthorized entry onto the construction site.

T13: Construction equipment shall be secured when not in use to minimize attraction to children.

If you have any questions or require additional information, please contact Billy Ho of my staff at (213) 485-5745.

MEM/bh
Q:\Billy\Sheldon-Arleta Park\2019 CEQA Re-evaluation (for Sheldon Arleta Phase III C)\CEQA Review Findings Memo 08-24-21.doc

Attachment

COUNTY CLERK'S USE

FILED

JUN 23 2004

CONNY B. McCORMACK, COUNTY CLERK

J. BAKER DEPUTY

CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012
CALIFORNIA ENVIRONMENTAL QUALITY ACT

NOTICE OF DETERMINATION

(Article I – City CEQA Guidelines)

CITY CLERK'S USE

JUN 23 2004

RE 019-04

DOCUMENT FILED

Public Resources Code Section 21152(a) requires local agencies to submit this information to the County Clerk. The filing of this notice starts a 30-day statute of limitations on court challenges to the approval of the project pursuant to Public Resources Code Section 21167.

LEAD CITY AGENCY AND ADDRESS:	COUNCIL DISTRICT
Department of Public Works, Bureau of Engineering 650 South Spring Street, Suite 574, Los Angeles CA 90014-1914	6
PROJECT TITLE: (Including its common name, if any) Sheldon-Arleta Park Project W.O. No. E1700500	CASE NO.: C.F.: 04-0529

PROJECT DESCRIPTION AND LOCATION:

Development of active and passive recreational facilities on a city-owned 45-acre site formerly used as a municipal landfill. The site is bounded by Sheldon Street on the north, Sharp Avenue on the east, Wicks Street on the south and Arleta Avenue on the west. Planned facilities include: soccer fields; baseball fields; basketball courts; children's play area, splash pad, jogging path; bike path; group and individual picnic areas; service facility; concession space; restrooms; off-street parking; security fencing and lighting; and landscaped buffer areas. 12455 Wicks St, Sun Valley.

CONTACT PERSON:	STATE CLEARINGHOUSE NUMBER:	TELEPHONE
Jim Doty	2004051066	213-847-8694

This is to advise that on **June 22, 2004** the **City Council** of the City of Los Angeles approved the project described above and made the following determinations:

SIGNIFICANT EFFECT	☐ The project **will** have a significant effect on the environment. ■ The project **will not** have a significant effect on the environment.
MITIGATION MEASURES	■ Mitigation measures **were** made a condition of project approval. ☐ Mitigation measures **were not** made a condition of project approval.
OVERRIDING CONSIDERATION	☐ A Statement of Overriding Considerations **was** adopted. ☐ A Statement of Overriding Considerations **was not** adopted. ■ A Statement of Overriding Considerations **was not** required.
ENVIRONMENTAL IMPACT REPORT	☐ An Environmental Impact Report **was** prepared for project and may be examined at the Office of the City Clerk. ■ An Environmental Impact Report **was not** prepared for the project.
NEGATIVE DECLARATION	■ A Negative Declaration or Mitigated Negative Declaration **was** prepared for project and may be examined at the Office of the City Engineer ☐ A Negative Declaration or Mitigated Negative Declaration **was not** prepared for the project.

SIGNATURE:	TITLE:	DATE:
Ara Kasparian, Ph.D.	Manager Environmental Mgmt Group	6/22/04

DISTRIBUTION: Part 1 - County Clerk Part 2 - City Clerk Part 3 - Agency Record Part 4 - Resp. State Agency

Form Gen. 156 (6/91) (Appendix D)

THIS NOTICE WAS POSTED
ON JUN 23 2004
UNTIL JUL 23 2004
REGISTRAR-RECORDER/COUNTY CLERK

04 0010538

Initial Study and Mitigated Negative Declaration

for

Sheldon-Arleta Park

W.O. E1700500



Los Angeles Department of Water and Power

BUREAU OF ENGINEERING
Serving the Present: Designing for the Future

May 3, 2004

Page	Erratum
3	In Footnote 1, "sight" should be "site."
10	The second "Item 1(d)" should be deleted from the Initial Study Checklist.
21	In mitigation measure LG1, correct the text to read in part "(no field or parking areas)"
21	Correct mitigation measure LG3 to read, "The maximum height of any identifying monument sign within 300 feet from residential properties shall not exceed 8 feet and shall not be lighted after closing time."
24	The last sentence of the second paragraph under "Construction Emissions" should read, "It is anticipated that project construction would occur for about 18 months; no construction activities would be conducted on Sundays or national holidays."
24-25	Replace Table 3 with revised Table 3 below.
25	Revise the first paragraph by deleting all but the first and last sentence. The paragraph now reads, "Table 4 shows the estimated construction-related emissions after mitigation. Impacts from construction would be less than significant after mitigation."
25	Replace Table 4 with revised Table 4 below.
25	Replace Table 5 with revised Table 5 below.
33	In mitigation measure G1, delete the word "Final" from the phrase "Regional Water Quality Control Board Final,"
35	In mitigation measure HAZ1, "Wste" should be "Waste."
36	In mitigation measure HAZ1, "Wste" should be "Waste."

Table 3. Estimated Construction Emissions.

Estimated Emissions*		ROC	NO_x	CO	SO_x	PM_{10}
Average Maximum Daily Emissions	(lbs/day)	10.71	68.22	91.85	0.0	452.82
Daily Thresholds for Construction Emissions	(lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds	**(lbs/day)**	**0.0**	**0.0**	**0.0**	**0.0**	**302.82**
Average Quarterly Emissions	(tons/quarter)	0.04	0.24	0.33	0.00	6.46
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of Quarterly Thresholds	**(tons/quarter)**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

*Based on URBEMIS 2002 assuming that the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Table 4. Estimated Construction Emissions After Mitigation.

Estimated Emissions*		ROC	NO_x	CO	SO_x	PM_{10}
Average Maximum Daily Emissions	(lbs/day)	10.71	68.22	91.85	0.0	135.79
Daily Thresholds for Construction Emissions	(lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds	**(lbs/day)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Average Quarterly Emissions	(tons/quarter)	0.04	0.24	0.33	0.00	6.31
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of SCAQMD Thresholds	**(tons/quarter)**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

*Based on URBEMIS 2002 assuming the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Table 5. Estimated Operational Emissions of Criteria Pollutants (lbs/day).

Estimated Emissions	ROC	NO_x	CO	SO_x	PM_{10}
Average Maximum Daily Emissions	17.74	23.35	247.89	0.22	19.61
Daily Thresholds for Operational Emissions	75	100	550	150	150
Exceedance of Daily Thresholds	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

MITIGATED NEGATIVE DECLARATION

(Article I, City CEQA Guidelines)

LEAD CITY AGENCY AND ADDRESS:	COUNCIL DISTRICT
Department of Public Works, Bureau of Engineering 650 South Spring Street, Suite 574, Los Angeles 90014	6
PROJECT TITLE: SHELDON ARLETA PARK (W.O. E1700500)	**CASE NUMBER** City Clerk **277-04-BE** Council File **01-0240** S.C.H.

PROJECT LOCATION:
12455 Wicks St, Sun Valley, California. The site is bounded by Sheldon Street on the north, Sharp Avenue on the east, Wicks Street on the south and Arleta Avenue on the west.

DESCRIPTION: Development of active and passive recreational facilities on a city-owned 45-acre site formerly used as a municipal landfill. Planned facilities include: soccer fields; baseball fields; basketball courts; children's play area, splash pad, jogging path; bike path; group and individual picnic areas; service facility; concession space; restrooms; off-street parking; security fencing and lighting; and landscaped buffer areas. The park may be built in phases depending on funding.

NAME AND ADDRESS OF APPLICANT IF OTHER THAN CITY AGENCY:

FINDING:
The **City Engineer** of the City of Los Angeles has determined that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in the Initial Study have been added to the project.

See attached Initial Study.

SEE THE ATTACHED PAGES FOR ANY MITIGATION MEASURES IMPOSED

Any written objections received during the public review period are attached, together with the responses of the lead City agency.

THE INITIAL STUDY PREPARED FOR THIS PROJECT IS ATTACHED

PERSON PREPARING THIS FORM	ADDRESS	TELEPHONE NUMBER
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1.0 INTRODUCTION

This Mitigated Negative Declaration (MND) evaluates the potential environmental impacts associated with development of a 45-acre public park on the closed Sheldon-Arleta municipal landfill. This MND has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq.*, and the CEQA Guidelines, California Code of Regulations (CCR) 15000 *et seq.* The City of Los Angeles is the CEQA Lead Agency for this MND.

Design details have not been finalized and facilities may be constructed in phases depending on funding. This analysis is based in large part on the development concept shown on the cover, which includes the following: soccer fields; baseball fields; basketball courts; children's play area, splash pad, jogging path; bike path; group and individual picnic areas; service facility; concession space; restrooms; off-street parking; jogging path; bike trail; security fencing and lighting; and landscaped buffer areas.

Construction is scheduled to begin in August or September of 2005 and take about 12 months. The schedule includes about six months for contingencies and post-construction activities such as inspection and commissioning. Project completion is scheduled for March 2007.

The development of the park would provide much needed parkland to nearby communities. The project is in Sun Valley, near the junction of the Hollywood Freeway (Rte 170) and the Santa Ana Freeway (Rte 5). The communities of Arleta, Pacoima and Panarama City are nearby.

1.1 CEQA Process

This MND has been prepared pursuant to the requirements of Sections 15063, 15070, and 15071 of the CEQA Guidelines. This document identifies, analyzes and evaluates potential project impacts on the environment, and ways in which the potential significant effects of the project are proposed to be avoided or mitigated.

In accordance with CEQA and the State CEQA Guidelines, this MND will be distributed to public agencies, and other interested parties and organizations. In reviewing the MND, public agencies and interested parties should focus on the sufficiency of the document in identifying and analyzing potential project impacts on the environment, and ways in which the potential significant effects of the project are proposed to be avoided or mitigated. Comments on the MND should be submitted in writing prior to the end of the public review period.

Prior to approving the project, the decision-making body of the lead agency must consider the MND together with any comments received during the public review process. The decision-making body will adopt the MND only if it finds on the basis of the whole record before it that there is no substantial evidence that the project will have significant effect on the environment and that the MND reflects the lead agency's independent judgement and analysis.

1.2 Document Format

This MND contains five sections plus technical appendices. Section 1, Introduction, provides an overview of the project and the CEQA environmental documentation process. Section 2, Project Description, provides a detailed description of the project location, project background, and project components. Section 3, Initial Study Checklist, presents the City's CEQA Checklist for all impact areas and mandatory findings of significance. Section 4, Environment Impact Evaluation, presents the environmental analysis for each issue area identified on the Initial Study Checklist. If the proposed project does not have the potential to cause a significant impact in a given issue area, a brief explanation of this conclusion is provided. If the proposed project *could* result in a significant impact, a description of potential impacts and appropriate mitigation measures and/or City permit requirements that would reduce those impacts to a less than significant level is provided. Section 5, List of Preparers, provides a list of key personnel involved in the preparation of this report, and Section 6, References, provides a list of reference materials used during the preparation of this report.

The Initial Study Checklist form in Section 3 follows closely the form prepared by the governor's Office of Planning and Research and was used in conjunction with the city's CEQA Thresholds Guide and other sources to screen and focus upon potential environmental impacts resulting from this project. Impacts are separated into the following categories:

- ***No Impact.*** This category applies when a project would not create an impact in the specific environmental issue area. A "No Impact" finding does not require an explanation when the finding is adequately supported by the cited information sources (e.g., exposure to a tsunami is clearly not a risk for projects not near the coast). A finding of "No Impact" is explained where the finding is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

- ***Less Than Significant Impact.*** This category is identified when the project would result in impacts below the threshold of significance, and would therefore be less than significant impacts.

- ***Less Than Significant After Mitigation.*** This category applies where the incorporation of mitigation measures would reduce a "Potentially Significant Impact" to a "Less Than Significant Impact." The mitigation measures are described briefly along with a brief explanation of how they would reduce the effect to a less than significant level. Mitigation measures from earlier analyses may be incorporated by reference.

- ***Potentially Significant Impact.*** This category is applicable if there is substantial evidence that a significant adverse effect might occur, and no feasible mitigation measures could be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required. There are no such impacts for the Sheldon-Arleta Park

Development project.

Sources of information that adequately support findings of no impact are referenced by number in parentheses following each question. All sources so referenced are available for review at the location cited or at the offices of the Bureau of Engineering, 650 South Spring Street, Suite 574, Los Angeles. Answers to other questions (as well as answers of "no impact" that need further explanation) are discussed in Section 4 of this report.

The environmental analysis included in Section 4 provides further explanation of the CEQA Initial Study finding presented in Section 3. The organization of Section 4 into issue areas mirrors the Initial Study Checklist in Section 3. The detail varies depending on the level of detail needed to reasonably support a finding. Explanations of "no impact" findings are usually brief. Other subsections, such as those supporting a finding of "less than significant after mitigation," may be quite lengthy. Lengthy subsections are organized into regulatory setting, thresholds of significance, project impacts and mitigation measures.

When extensive calculations or technical reports were used to prepare sections of this report, those calculations and technical reports are included in appendices.

2.0 PROJECT DESCRIPTION

This section describes the objectives of the proposed project, the location of the site, and the details of the park development project, including the anticipated construction requirements and construction schedule. This information is the basis for the analysis of environmental impacts included in Sections 3 and 4.

2.1 Description

The city proposes to develop recreational facilities on a city-owned 45-acre site formerly used as a municipal landfill[1]. Design details have not been finalized and facilities may be constructed in phases depending on funding. This analysis is based in large part on the development concept shown on the cover, which includes the following: soccer fields; baseball fields; basketball courts; children's play area, splash pad, jogging path; bike path; group and individual picnic areas; service facility; concession space; restrooms; off-street parking; security fencing and lighting; and landscaped buffer areas. Field lights are not currently proposed.

Sheldon-Arleta Park programs and recreational amenities will be maintained and operated by the Department of Recreation and Parks. The park will be open to the public on weekdays from 9:00 AM to 10:30 PM (if lighted) or until dusk (if not lighted). On weekends, the park will be open to the public from 9:00 AM to 5:00 PM. The facility will be located in the North Valley Service Area (Operations West).

1. The size of the sight has been variously described. The area enclosed by the streets is 45 acres. The landfill covered about 41 acres.

The Department of Public Works Bureau of Sanitation will have the lead responsibility for implementing the actions in the Closure and Post-Closure Maintenance Plan: maintaining the landfill cap; maintaining and operating the groundwater and landfill gas monitoring and control systems; and responding with corrective actions as necessary.

Construction is scheduled to begin in August or September of 2005 and take about 12 months. The schedule includes about six months for contingencies and post-construction activities such as inspection and commissioning. Project completion is scheduled for March 2007. Specific park amenities may be built in phases depending on funding. Site grading for the park would take 5 weeks. It is expected that grading for the project would be balanced on site, though settling may dictate that some import may be required in the future. Cut and fill is estimated at about 100,000 cubic yards (CY). After initial site grading, construction of park facilities and landscaping is estimated to last about 11 months. No construction would take place on Sundays or national holidays. Construction activities would not occur before 7:00 AM or after 9:00 PM on weekdays or before 8:00 AM or after 6:00 PM on Saturdays. These hours of construction are consistent with the City of Los Angeles Noise Ordinance §41.40, Noise Due to Construction, Excavation).

The actual numbers and kinds of equipment that will be used to construct the project cannot be determined at this time. The analysis in this report is based on a typical construction scenario which includes using the following off-road equipment at the site during site grading: bulldozers, dump trucks, water trucks, loaders, graders and compactors. The typical construction scenario used for the analyis in this report also includes the following equipment during construction of park facilities and landscaping /exterior finishes: backhoe, loaders, concrete pump, dozers, water pump, paver, truck, crane, and material delivery trucks.

The analysis in this document assumes that, unless otherwise stated, the project will be designed, constructed and operated following all applicable laws, regulations, ordinances and formally adopted City standards (e.g., *Los Angeles Municipal Code* and Bureau of Engineering *Standard Plans*). Also, the analysis in this document assumes that construction will follow the uniform practices established by the Southern California Chapter of the American Public Works Association (e.g., *Standard Specifications for Public Works Construction* and the *Work Area Traffic Control Handbook*) as specifically adapted by the City of Los Angeles (e.g., The City of Los Angeles Department of Public Works *Additions and Amendments to the Standard Specifications For Public Works Construction* (AKA "The Brown Book," formerly Standard Plan S-610)).

The Bureau of Engineering's standard specifications (Section 01572) includes procedures for ensuring optimal diversion of solid resources generated by projects. Construction contractors are required to develop and implement plans to recycle, re-use and salvage materials to the greatest extent possible. Demolition debris would be recycled or disposed of at local landfills. The two nearest landfills to the project site are Bradley landfill in Sun Valley, and Sunshine Canyon landfill near Granada Hills. Construction-related trucktrips would be restricted to off-peak hours (9:00 AM to 4:00 PM) when possible.

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, would provide reasonable accommodation to ensure equal access to its programs, services, and activities.

2.2 Location

The project is in the northeastern San Fernando Valley, near the junction of the Hollywood Freeway (Rte 170) and the Santa Ana Freeway (Rte 5). It is bounded by Sheldon Street on the north, Sharp Avenue on the east, Wicks Street on the south and Arleta Avenue on the west. The area north of Sheldon Street is the Department of Water and Power's Tujunga Spreading Grounds. The area east of Sharp Avenue is developed with single-family homes. Francis Polytechnic High School occupies the south side of Wicks Street, with athletic fields and a student parking lot adjacent to the street. The area west of Arleta Street contains the Department of Water and Power's Anthony Office Building and parking lot. That property is proposed for redevelopment as the East Valley Area New High School #1A, a new High School of approximately 1,633 seats.

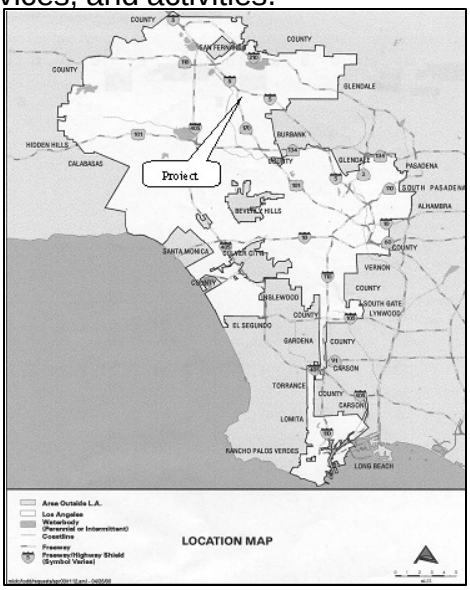

Figure 2. Project Location.

The project site is located within the Van Nuys quadrangle of the United States Geological Survey 7.5-minute series topographic map. Ground elevations on the site vary from 830 to 870 feet above mean sea level with a gentle topographic gradient to the south. According to the FEMA Flood Insurance Rate Map (FIRM) Community Panel numbers 060137 0021 C and 060137 0030 C, the project site is located in flood zone C, an area outside of the flood zone. The Tujunga Spreading Grounds are to the north and northwest of the project, separated from the project by freeways. No bodies of water are located on or in the immediate vicinity of the project site. Depth to groundwater is about 300 feet and the groundwater flows in a southeasterly direction (26).

The project site is designated open space in the City's General Plan and is zoned as open space extra limited height district (OS-1XL-G). It is the purpose of the "OS" Open Space Zone to provide regulations for publicly owned land in order to implement the City's adopted General Plan, including the recreation, parks and open space designations in the City's adopted district and community plans, and other relevant elements, including the Open Space, Conservation and Public Recreation Elements. Implementation of the General Plan will serve to protect and preserve natural resources and natural features of the environment; to provide outdoor recreation opportunities and advance the public health and welfare; to enhance environmental quality; to encourage the management of public lands in a manner which protects environmental characteristics; and to encourage the maintenance of open space uses on all publicly owned park and recreation land, and open space public land which is essentially unimproved. Parks and recreation facilities, including: bicycle trails, equestrian trails, walking trails, nature trails, park land/lawn areas, children's play areas, picnic facilities, and athletic

fields (not to exceed 200 seats in park) used for park and recreation purposes are allowed in the Open Space Zone (LAMC Sec. 12.04.05). The total floor area contained in all the main buildings on a lot in Height District No. 1 may not exceed three times the buildable area of the lot. Buildings and structures in the Extra Limited Height District may not exceed two stories, and the highest point of the roof of any building or structure in such District may not exceed 30 feet in height.

2.3 Sheldon/Arleta Landfill

Detailed information about current site conditions, monitoring, and maintenace activities relating to the Sheldon/Arleta Landfill are contained in the Final Closure and Post-closure Maintenance Plan (26). The site was excavated for sand and gravel, after which the resultant pit was modified and used as a Class III sanitary landfill, receiving 3 million tons of residential and commercial refuse from 1962 to 1974. The landfill was closed in 1974 in the manner required by the Los Angeles Regional Water Quality Control Board (LARWQCB Resolution 61-09). The City's Bureau of Sanitation has been maintaining and monitoring the site since then. The refuse in the landfill is covered with an average of 21 feet of lean clay and silty clay soil (cover depth ranges from 12 to 53 feet).

The current monitoring and control systems at the Sheldon-Arleta Landfill consist of water infiltration barriers, a groundwater monitoring system, and a gas collection, monitoring and control system.

Infiltration Barriers

The City built a water infiltration barrier between the pit and the adjacent Tujunga Spreading Grounds prior to placement of waste into the pit. The barrier consists of an 8-foot thick layer of permeable material placed against the pit wall and an 8-foot thick clay layer placed against the permeable layer inside the pit. This was done in order to prevent the water from the Tujunga Spreading Grounds from spreading into the landfill waste and carrying pollutants into the groundwater.

A final cover was placed over the landfill when refuse disposal ceased. The purpose of the final cover is to provide long-term minimization of surface water intrusion, to accommodate settlement and subsidence, to isolate wastes from the surface, and to reduce the potential for odors or gas emissions. The cover also provides a base for vegetation which reduces drainage velocities and thus minimizes erosion of the final cover. State Regulations establish minimum final cover requirements, which consist of the following layers (from bottom to top): at least two feet of compacted foundation soil, at least one foot of low-permeability soil, and at least one foot vegetative cover soil. The current final cover on the Sheldon-Arleta landfill, lean clay and silty clay soil from 12 to 53 feet deep, is of sufficient depth and quality to protect the groundwater and complies with the state standards.

The closed landfill is designed to divert run-on and run-off away from the landfill while minimizing erosion. Curbs, gutters and storm drains in the adjactent roads prevent run-on to the landfill. Regulations require the contours of the landfill to be designed to prevent ponding, accommodate anticipated future settlement, and reduce runoff velocities in order to protect the

final cover from soil erosion. Due to the age and character of the underlying waste, it is anticipated that the majority of the settlement has already taken place. Permanent survey control monuments have been established to monitor settlement of the site. Continued monitoring of landfill settlement will determine the frequency of regrade design and construction.

Groundwater Monitoring and Control System

The groundwater at the landfill is approximately 300 feet below the landfill surface and flows in a southeasterly direction. The City of Los Angeles completed a Solid Waste Assessment Test in 1987 and concluded that the landfill does not contaminate the groundwater. According to the Assessment findings, the water spreading at the adjacent Tujunga Spreading Grounds, operated by the Los Angeles County Department of Public Works, may influence the groundwater levels and methane gas migration around the Sheldon-Arleta Landfill. The Bureau of Sanitation, Department of Water and Power, and County Public Works are working together in minimizing those influences by controlling the spreading rates at the spreading grounds. The Regional Water Quality Control Board accepted the City's Assessment in April 1990 provided that the City continued to monitor the groundwater wells, the leachate wells and the effects of the spreading by the adjacent Tujunga Spreading Grounds.

The Bureau of Sanitation collects groundwater samples quarterly and analyzes for the following constituents:

- Subtitle D, Appendix I Volatile Organic Compounds plus MTBE (EPA Method 8260)
- Metal Surrogates including: bicarbonate, chlorides, sulfate, total dissolved solids, nitrates as nitrogen and pH
- Inorganic Compounds

In addition to collecting groundwater samples from the monitoring wells, the City measures depth to groundwater in each well, groundwater pH, specific conductance, and water temperature. The City also performs and documents quality assurance and quality control procedures and visually inspects the monitoring wells to see that they are in proper working order. Groundwater flow at the landfill is evaluated based on the groundwater levels measured in the wells.

Two pressure-vacuum lysimeters were installed 10 to 15 feet below ground surface in 1989 to monitor leachate within the landfill itself. By 1998, no samples had been retrieved from the lysimeters due to a lack of fluid. Use of the lysimeters was discontinued, and instead leachate is monitored by visually inspecting the landfill surface for leachate seeps.

Landfill Gas Control System

In order to minimize landfill gas migration at the Sheldon-Arleta Landfill, the Bureau of Sanitation installed an on-site and off-site gas control system. The on-site gas control system consists of a network of thirty-four extraction wells, pipes, blowers, and flare. Until recently, extracted gas was piped off-site to a privately-owned energy conversion plant and the on-site gas flare unit was operated only during extreme rare circumstances when gas production was

higher than normal or when the sensors/probes at the neighboring Francis Polytechnic High School detected high level of landfill gas concentrations. The landfill gas is now combusted on site. The gas flare unit has a sensor that will automatically dial a list of emergency responders if the gas flare fails. The effectiveness of the flare station is measured and reported quarterly.

Landfill Gas Monitoring System
The City's landfill gas monitoring system covers the Sheldon-Arleta Landfill, the Francis Polytechnic High School, and the adjacent residential area. There are twenty migration monitoring probes around the perimeter of the landfill and fifteen landfill gas migration probes throughout the Francis Polytechnic High School. The Bureau of Sanitation inspection staff monitors the probes around the perimeter of the landfill on weekly basis. The entire monitoring network is sampled, monitored and reported on a quarterly basis.

The system located at the Francis Polytechnic High School includes a computer monitoring system that is connected to an autodialer and annunciator panel. The computer is connected to and monitors twenty methane sensors located throughout the school campus on a 24-hour basis. The sensors are connected to a blower system that will force air into the ground to create a high-pressure wall of air between the school and the landfill if methane is detected at or above 15% of its lower explosive limit. The system alarms and automatically dials a list of emergency responders when methane levels reach 25% of the LEL.

2.4 Purpose
The project is proposed to increase recreation opportunities in the area.

2.5 Intended Uses of this Document
This MND envisions for the following discretionary actions for the project:

Approval of revisions to the Closure and Post-closure Maintenance Plan by the City of Los Angeles Local Enforcement Agency, California Integrated Waste Management Board, and California Regional Water Quality Control Board, Los Angeles Region.

Approval of the park plan by the City of Los Angeles Department of Recreation and Parks.

Approval of funding by the Los Angeles City Council and granting agencies for construction and operation. Funding under the Proposition K and Proposition 40 (Murray Hayden and Urban Parks) Programs is currently envisioned.

Approval of implementing cooperative agreements between agencies with continuing responsibilities. For example, the Department of Recreation and Parks will operate and maintain the recreational programs and amenities, while the Department of Public Works Bureau of Sanitation is expected to retain continuing responsibility for the implementation of the landfill Closure and Post-closure Maintenance Plan. An interdepartment agreement may be created to coordinate these activities.

Advertisement and award of construction contracts by the City of Los Angeles Department of Public Works.

Other state or city implementing actions or approvals (grading permits, building permits, encroachment permits, OSHA permits, utility connections permits, fire code compliance, etc.).

The foregoing list of agencies and actions is intended only to enhance the reader's understanding of the scope of the proposed project. It is not intended to mandate any specific action or regulatory control, nor is it exhaustive, nor arranged in chronological order.

3.0 INITIAL STUDY CHECKLIST

This section documents the screening process used to identify and focus upon environmental impacts that could resulting from this project. The following Initial Study Checklist form follows the recommendations of the governor's Office of Planning and Research and was used in conjunction with the city's CEQA Thresholds Guide and other sources to screen and focus upon potential environmental impacts resulting from this project. Sources of information that adequately support findings of no impact are referenced by number in parentheses following each question. All sources so referenced are available for review at the offices of the Bureau of Engineering, 650 South Spring Street, Suite 574, Los Angeles. Answers to other questions (as well as answers of "no impact" that need further explanation) are discussed in Section 4 of this report.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
1. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista? Reference: (12) Sections L1 and L2 Comment:	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? Reference: (12) Sections L1 & L2 Comment:	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings? Reference: (12) Sections L1 and L3 Comment:	☐	☐	☐	☒
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? Reference: (12) Section L4 Comment: The project site is vacant, but surrounded by fully-improved streets with street lighting. The project would include new security lighting and some lights for outdoor athletics. All exterior lamp fixtures would be shielded to minimize illumination and glare to the adjacent properties.	☐	☐	☒	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? Reference: (12) Section L4 Comment: All exterior lamp fixtures would be shielded to minimize illumination and glare to the adjacent properties.	☐	☐	☐	☒
2. AGRICULTURE RESOURCES – Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? Reference: (2) Comment:	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? Reference: (2) Comment: The area is not zoned for agricultural use.	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use? Reference: (2) Comment:	☐	☐	☐	☒
3. AIR QUALITY – Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan? Reference: (13) Comment:	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? Reference: (12) Sections E1, E2, and E3; (13) Comment:	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? Reference: (13) Comment: Construction impacts would be temporary. Additionally, construction activities would comply with applicable SCAQMD regulations, such as Rule 403, which is designated to minimize fugitive dust. Construction equipment would also be permitted, maintained, and operated to minimize emissions.	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations? Reference: (12) Sections E1, E2 and E3 Comment: see text.	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people? Reference: (12) Section E2 Comment: see text.	☐	☐	☒	☐
4. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? Reference: (12) Section G; (5) Comment:	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? Reference: (12) Section G; (15); (16) Comment:	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? Reference: (12) Section G; (16) Comment:	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? Reference: (12) Section G Comment:	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Reference: (12) Section G; (5) Comment:	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? Reference: (12) Section G Comment:	☐	☐	☐	☒
5. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations Section 15064.5? Reference: Comment: project site is vacant. Landfill mass contains cultural materials (municipal refuse) but those materials will not be disturbed by the proposed project except as necessary to install monitoring and/or barrier wells to protect public safety.	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations Section 15064.5? Reference: (22) Comment: no known resources on site despite extensive excavation, drilling and other disturbances.	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? Reference: (20), (21) Comment: no known resources on site despite extensive excavation, drilling and other disturbances.	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries? Reference: Comment: no known resources on site despite extensive excavation, drilling and other disturbances.	☐	☐	☐	☒
6. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? References: (3), (4) Comment: Van Nuys Quadrangle not mapped – no fault zones	☐	☐	☐	☒
ii) Strong seismic ground shaking? Reference: (12) Section C1 Comment: site not subject to abnormal risk therefore complying with code requirements will be sufficient to avoid significant risk.	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction? Reference: (12) Section C1; (3); (17) Comment: not in a liquefaction zone or fault study zone	☐	☐	☐	☒
iv) Landslides? Reference: (12) Section C1 Comment: not a hillside area.	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil? Reference: (12) Section C2 Comment:	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? Reference: (12) Section C2, (27), (37) Comment: Project site is former landfill and subject to settling.	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? Reference: (27), (37) Comment: soils are not expansive.	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? Reference: (9) Comment: sewers are available.	☐	☐	☐	☒
7. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Reference: (12) Section H1 Comment: The proposed uses (active and passive recreation) do not involve the routine transport, use, or disposal of hazardous materials.	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? Reference: (12) Section H1	☐	☒	☐	☐

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
Comment: See text. Gas emissions and leachate relating to the landfill will be monitored and appropriately handled following the Final Closure and Post Closure Maintenance Plan (25).				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? Reference: (12) Section H1; (15) Comment: See text. Francis Polytechnic High School is across Wicks Street from the site. Gas emissions and leachate relating to the closed landfill will be monitored and appropriately handled following the Final Closure and Post Closure Maintenance Plan (26).	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? Reference: Comment: See text.	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? Reference: (15) Comment: The project is not so located.	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? Reference: (15) Comment: The project is not so located.	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? Reference: (12) Section H1 Comment: The project will not alter existing streets.	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? Reference: (12) Section J2 Comment: Project does not involve wildlands.	☐	☐	☐	☒
8. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
Reference: (12) Section D2; (15) Comment: see text. Proposed project includes adherence to the Sheldon/Arleta Landfill Final Closure and Post-Closure Maintenance Plan, following the requirements of the Regional Water Quality Control Board.				

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? Reference: (12) Section D3; (14) (26) Comment: Because the site is a closed landfill, negligible or no groundwater recharge occurs through this site.	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? Reference: (12) Section D1; (15) (24) (26) Comment: Project site does not contain a watercourse. Compliance with existing laws, regulations and standards is sufficient to prevent significant erosion or introduction of soil into the stormdrain system.	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? Reference: (12) Section D1; (15); (7) Comment: The project site not subject to flooding. The project will consist primarily of landscaping a currently vacant area. Irrigation will slightly increase runnoff, but not to the extent of creating a new or aggravating an existing flood risk.	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? Reference: Comment: see 8(d) above	☐	☐	☐	☒
f) Otherwise substantially degrade water quality? Reference: (12) Section D2; (15) Comment:	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? Reference: (12) Section D1; (7) Comment: The site is not within a 100-year flood hazard area.	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows? Reference: (12) Section D1; (7) Comment: The site is not within a 100-year flood hazard area.	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? Reference: (12) Section D1; (7)	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
Comment: The site is not within a 100-year flood hazard area, nor within an area protected by a levee, dam or similar structure.				
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
Reference: (12) Section C1 Comment: The site is not in or near a hillside area nor near any large water body.				
9. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
Reference: (12) Section A2 Comment: The project does not include any features such as permanent road closures or the placement of aboveground infrastructure that would isolate a particular neighborhood or community.				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? Reference: (10); (12) Section A1 Comment: see text. The project site is designated open space in the city's General Plan and is zoned as open space extra limited height district (OS-1XL-G). If proposed, certain project elements, such as field lights over 30-feet tall, will require clearance from the City Planning Department.	☐	☒	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan? Reference: (5); (12) Section G Comment: The project is not in such a plan area.	☐	☐	☐	☒
10. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? Reference: (12) Section C4, (17) Comment: Sand and gravel were extracted from the project site and the excavated void has been filled with municipal solid waste and cap/cover deposits. Additional mineral extraction is not feasible.	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? Reference: Comment: see above.	☐	☐	☐	☒
11. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? Reference: (12) Sections I1, I2, I3, and I4 Comment:	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? Reference: (12) Sections I1, I2, I3, and I4	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
Comment:				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? Reference: (12) Sections I1, I2, I3, and I4 Comment:	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? Reference: Comment: see text.	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? Reference: (10) Section I4, (11) Comment: Whiteman Air Park is at 12653 Osborne St., 1.8 miles north of the project site. The project will not increase residences nor airport use.	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? Reference: Comment: see (e) above.	☐	☐	☐	☒
12. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? Reference: (12) Section B2 Comment:	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? Reference: (12) Section B2 Comment: The project will not remove any housing.	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? Reference: (12) Section B2 Comment: The site does not contain any habitable structures.	☐	☐	☐	☒
13. PUBLIC SERVICES –				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection? Reference: (12) Section J2, (28) Comment: The project will increase incrementally the need for fire and emergency medical response. This impact is expected to be less than significant because the project is consistent with the City's General Plan.	☐	☐	☒	☐

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
ii) Police protection? Reference: (12) Section J1, (28) Comment: The project will increase incrementally the need for police patrol and response. This impact is expected to be less than significant because the project is consistent with the City's General Plan.	☐	☐	☒	☐
iii) Schools? Reference: (12) Section J3, (17), (28), (29) Comment: The project will not affect the demand for schools.	☐	☐	☐	☒
iv) Parks? Reference: (12) Section J4, (28) Comment: The project will increase incrementally the need for park management and maintenance. The Department of Recreation and Parks has indicated they have sufficient resources to manage and maintain the new facility.	☐	☐	☒	☐
v) Other public facilities? Reference: (12) Section J5, (28) Comment:	☐	☐	☐	☒
14. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? Reference: (12) Section J4 Comment: Project will create new park space which will reduce the usage of recreational facilities currently existing in the area.	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? Reference: Comment: See text. The project will create new recreational facilities that, with mitigation, will not have an adverse physical effect on the environment.	☐	☒	☐	☐
15. TRANSPORTATION/TRAFFIC – Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? Reference: (12) Sections F1, F2, F3, F4, and F8 Comment: see text	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? Reference: 10, 12 (Sections I1 and I2) Comment:	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
Reference: (17) Comment: The project is not located in an airport hazard zone.				
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Reference: (12) Section F5 Comment: All known risk factors are addressed under other headings.	☐	☐	☐	☒
e) Result in inadequate emergency access? Reference: (12) Sections F5, F8, and J2 Comment: see 13(a)(I) Police and 13(a)(ii) Fire above.	☐	☐	☐	☒
f) Result in inadequate parking capacity? Reference: (12) Sections F5 and F7 Comment: Parking will be provided consistent with municipal code requirements.	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? Reference: (12) Sections F5 and F7 Comment: no known conflicts	☐	☐	☐	☒
16. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? Reference: (12) Section K2 Comment: This site is in the City's Hyperion Treatment Plant service area. Wastewater will be collected and treated in accordance with permits from the Regional Water Quality Control Board.	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Reference: (12) Sections K1 and K2 Comment: Of the 4 streets bounding the project site, only Sharp Ave currently contains a sewer. The project will require minor sewer extensions to serve public restrooms. This impact is expected to be less than significant because the project is consistent with the City's General Plan and is not in an area where sewer capacity is constrained.	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Reference: (12) Section D1 Comment: There is an existing 36 to 42-inch RCP storm drain in Wicks Avenue (D-31046). Minor new lines and/or catch basins may be needed to improve drainage of the property, depending on final grading plan.	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? Reference: (12) Section K1 Comment: The project will increase incrementally the need for water for drinking, irrigation and toilets. This impact is expected to be less than significant because the project is consistent with the City's General Plan and is in an area served by water lines.	☐	☐	☒	☐

Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant	No Impact
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? Reference: (12) Section K2 Comment: The project will increase incrementally the need for wastewater treatment. The city's wastewater treatment capacity is sufficient to support development consistent with the City's General Plan. This project's impact is expected to be less than significant because the project is consistent with the City's General Plan.	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Reference: (12) Section K3 Comment: The project will increase incrementally the need for solid waste collection and recycling/disposal. The city's solid waste management capacity is sufficient to support development consistent with the City's General Plan. This project's impact is expected to be less than significant because the project is consistent with the City's General Plan.	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste? Reference: (12) Section K3 Comment: The proposed project will generate solid waste similar to existing facilities in kind and volume. City recreational facilities currently comply with existing laws, regulations and standards related to solid waste.	☐	☐	☐	☒
17. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? Reference: Comment: see text regarding biological resources and cultural resources	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? Reference: Comment: see text	☐	☒	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? Reference: Comment: see text	☐	☒	☐	☐

4.0 ENVIRONMENTAL IMPACT EVALUATION

This section presents the environmental analysis for each issue area identified on the Initial Study Checklist. If the proposed project does not have the potential to cause a significant impact in a given issue area, a brief explanation of this conclusion is provided. If the proposed project *could* result in a significant impact, a description of potential impacts and appropriate mitigation measures and/or City permit requirements that would reduce those impacts to a less than significant level is provided.

4.1 Aethetics

Less Than Significant After Mitigation. The project would create new light sources but would not create substantial light or glare that would adversely affect day or nighttime views in the area. The project site is vacant, but surrounded by streets with street lighting. The project would include new security lighting. Field lighting for night games is not currently proposed. A proposed screening and sound attenuation berm between the active recreation areas and the eastern margin of the park would shield residents along Sharp Avenue from most of the park lights. Therefore the project would not risk a significant impact with the following mitigation measures:

LG1. Parking lot lighting shall not exceed 30 feet in height and shielded to shine downward. Only low level security lighting (no field or parking areas) is allowed after closing and only at the minimum level of illumination to identify unauthorized people on-site.

LG2. All night lights shall be shielded to shine only on the subject property, and no light bulb shall be visible from any adjacent property.

LG3. The maximum height of any identifying monument sign within 300 feet off residential properties shall not exceed 8 feet, shall not be lighted after closing time.

Field lighting was originally proposed but was dropped due to funding and geotechnical considerations. However, it is reasonable to expect that field lighting could be proposed in the future if the current limitations are overcome. In the event that field lighting is proposed, it would not risk a significant impact with the following mitigation measures:

LG4. All field lighting shall be directional lighting aimed only at the playing field/seating areas.

LG5. Field lighting is allowed until 10 PM and then shall be turned off by automatic timer. Field lighting is allowed only for the active recreation areas.

4.2 Agricultural Resources

No Impact. The project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use (2). The area is not zoned for agricultural use nor controlled by a Williamson Act contract. The project does not involve other changes in the existing environment which, due to their location

or nature, could result in conversion of farmland, to non-agricultural use.

4.3 Air Quality

Less than Significant Impact after Mitigation. State and federal agencies have set ambient air quality standards for certain air pollutants (Table 1). National Ambient Air Quality Standards (NAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM10), fine particulate matter (PM2.5) and lead (Pb). The state standards for these criteria pollutants are more stringent than the corresponding federal standards.

Table 1. State and Federal Ambient Air Quality Statndards.

Ambient Air Quality Standards				
Pollutant	**Averaging Time**	**California Standards[1]**	**Federal Standards[2]**	
			Primary[3]	**Secondary[5]**
Ozone (O_3)	8 Hour		0.08 ppm (note 5)	0.08 ppm
	1 Hour	0.09 ppm	0.12 ppm	0.12 ppm
Respirable Particulate Matter (PM10)	24 Hour	50 µ/m^3	150 µ/m^3	150 µ/m^3
	1 Year	20 µ/m^3	50 µ/m^3	50 µ/m^3
Fine Particulate Matter (PM2.5)	24 Hour	No Separate Standard	65 µ/m^3 (note 5)	65 µ/m^3
	1 Year	12 µ/m^3	15 µ/m^3	15 µ/m^3
Carbon Monoxide (CO)	8 Hour	9.0 ppm	9 ppm	None
	1 Hour	20 ppm	35 ppm	None
Nitrogen Dioxide (NO_2)	1 Year		0.053 ppm	0.053 ppm
	1 Hour	0.25 ppm		
Sulfur Dioxide (SO_2)	1 Year		0.030 ppm	
	24 Hour	0.04 ppm	0.14 ppm	
	3 Hour			0.5 ppm
	1 Hour	0.25 ppm		
Lead[6]	30 Day	1.5 µ/m^3		
	Calendar Quarter		1.5 µ/m^3	1.5 µ/m^3
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer (10 miles visibility) due to particles when relative humidity is less than 70%	No Federal Standard	
Sulfates	24 Hour	25 µ/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm		
Vinyl Chloride[6]	24 Hour	0.01 ppm		

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the

standard. For PM10, the 24 hour standard is attained when the expected number of days per calender year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
5. New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18,1997. Contact U.S. EPA for further clarification and current federal policies.
6. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

California is divided into 15 air basins for the purposes of managing the state's air resources on a regional level. The City of Los Angeles is within the South Coast Air Basin (Basin), which consists of four counties – San Bernardino, Riverside, Los Angeles, and Orange. The Basin includes all of Los Angeles and Orange counties and the urbanized portions of San Bernardino and Riverside counties. The distinctive climate of the Basin is determined by its terrain and geographic location. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

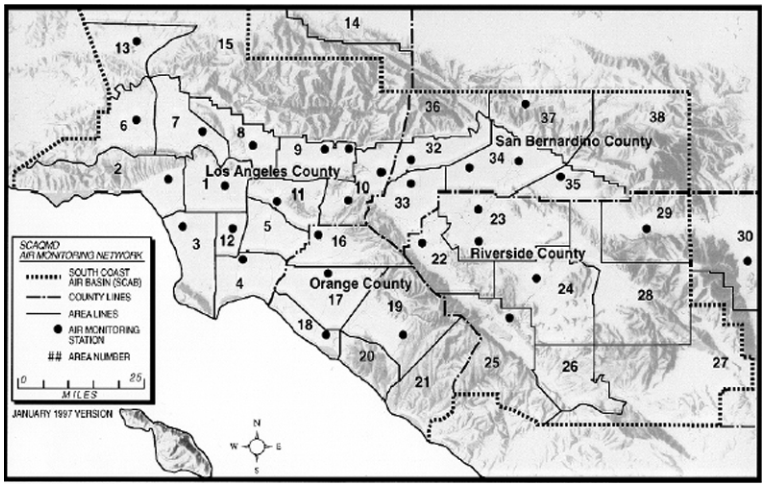

Figure 3. South Coast Air Basin Source-Receptor Areas.

Areas are classified under the Federal Clean Air Act as either "attainment" or "non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the state standards is determined by the California Air Resources Board (CARB). The project site is in source-receptor area 7 (Eastern San Fernando Valley) of the Los Angeles County portion of the Basin (Figure 3). Los Angeles County is designated as a non-attainment area for O_3, CO, and PM10, and an attainment area for SO_2, NO_2, and Pb.

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws, regulations, and policies in the South Coast Air Basin. Included in the SCAQMD's tasks are monitoring of air pollution, preparation of the State Implementation Plan (SIP) for the Basin, and promulgation of its Rules and Regulations. The SIP includes strategies and tactics

to be used to attain the state and federal standards in the South Coast Air Basin.

Air quality impacts associated with this project were evaluated using the thresholds of significance established by the SCAQMD and presented in the *CEQA Air Quality Handbook* (13). Details of the analysis are contained in Appendix B.

Construction Emissions

The SCAQMD's thresholds of significance for the criteria pollutants are shown on Table 2. The principal sources of pollutant emissions during construction are fugitive dust and engine exhaust from construction equipment. Fugitive dust would be created during site clearing; excavation and grading; vehicle travel on paved and unpaved roads; and material blown from unprotected graded areas, stockpiles and haul trucks. Fugitive dust includes PM10 and PM2.5, which are potential health hazards, and often contribute to visibility and nuisance impacts which occur when dust from construction activities is deposited on residences, vehicles, and vegetation. In construction equipment exhaust, the principal pollutants of concern are NOx and ROC, the primary constituents in the formation of ozone, a pollutant for which the region is currently considered in nonattainment.

Construction equipment used for park development would primarily consist of dozers, backhoes, loaders, trucks, pavers, and cranes. However, all of these pieces of construction equipment would not be used concurrently. The combination of equipment in use will change for each project phase: grading, paving, building construction, and landscaping. It is anticipated that project construction would occur for about 12 months; no construction activities would be conducted on Sundays or national holidays.

Table 2. SCAQMD Air Quality Impact Significance Thresholds.

Pollutant*	**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Daily Thresholds for Construction Emissions (lbs/day)	75	100	550	150	150
Thresholds for Construction Emissions (tons/quarter)	2.5	2.5	24.75	6.75	6.75
Daily Thresholds for Operational Emissions (lbs/day)	75	100	550	150	150

*South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993. No significance threshold is established for ozone as it is not emitted directly but is a secondary pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROCs and NO_x.

Table 3 shows the estimated construction-related emissions of the proposed project based on the URBEMIS2002 air emissions model. The URBEMIS model does not take into account the standard practices for public works construction which reduce air emissions. Evenso, the majority of emissions would remain below the SCAQMD thresholds of significance. However, URBEMIS indicates potentially significant emissions of NOx (daily emissions) and PM10 (quarterly emissions) during construction.

Table 3. Estimated Construction Emissions.

Estimated Emissions*	**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Average Maximum Daily Emissions (lbs/day)	22.65	162	181.19	0.01	479.74
Daily Thresholds for Construction Emissions (lbs/day)	75	100	550	150	150

Estimated Emissions*		ROC	NO_x	CO	SO_x	PM_{10}
Exceedance of Daily Thresholds	**(lbs/day)**	**0.0**	**62.0**	**0.0**	**0.0**	**329.7**
Average Quarterly Emissions	(tons/quarter)	0.1	0.6	0.65	0.00	6.84
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of Quarterly Thresholds	**(tons/quarter)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**

*Based on URBEMIS 2002 assuming that the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Table 4 shows the estimated construction-related emissions after mitigation. With the implementation of the mitigation measures identified below, the proposed project slightly exceeds the threshold for NOx daily emissions. Since site grading will be done by City forces and equipment temporarily reassigned from other sites in the air basin, the emissions in Table 2 will be off-set by reductions elsewhere in the air basin and therefore are not considered significant. Due to the relatively limited amount of earthwork and the short duration of construction activities, air quality impacts resulting from the proposed project would not alter state or federal attainment status for criteria pollutants. Impacts from construction would be less than significant after mitigation.

Table 4. Estimated Construction Emissions After Mitigation.

Estimated Emissions*		ROC	NO_x	CO	SO_x	PM_{10}
Average Maximum Daily Emissions	(lbs/day)	22.65	111.61	181.19	0.01	74.61
Daily Thresholds for Construction Emissions	(lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds	**(lbs/day)**	**0.0**	**11.6**	**0.0**	**0.0**	**0.0**
Average Quarterly Emissions	(tons/quarter)	0.1	0.4	0.65	0.00	1.07
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of SCAQMD Thresholds	**(tons/quarter)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

*Based on URBEMIS 2002 assuming the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Operational Emissions

Operational emissions are typically associated with vehicle trips generated by a land use. The recreation land use generates peak vehicles trips on weekends, which does not correspond with peak vehicle trip days (Monday-Friday). The proposed project would generate the greatest number of additional trips on the weekends during heavy use periods of the park. As shown in Table 5, all operational emissions generated by the anticipated vehicle traffic would remain below the SCAQMD thresholds of significance.

Table 5. Estimated Operational Emissions of Criteria Pollutants (lbs/day).

Estimated Emissions	ROC	NOx	CO	SOX	PM10
Average Maximum Daily Emissions	19.62	25.11	273.95	0.21	19.60
Daily Thresholds for Operational Emissions	75	100	550	150	150
Exceedance of Daily Thresholds	**0**	**0**	**0**	**0**	**0**

As described above, the proposed project would not result in significant impacts to regional air quality as a result of the operation of the proposed project. Operation of the proposed

project would not conflict with or obstruct the implementation of the AQMP or alter state or federal attainment status for criteria pollutants.

CO Hot Spot Analysis

Playgrounds and athletic facilities are land uses that are considered to be sensitive receptors (13). The project site is adjacent to the Hollywood Freeway (Rte 170). Freeways and busy intersections are potential causes of areas of high CO concentrations, called CO hot spots. A CO hot spot analysis was done expected 2007 peak traffic conditions (Weekday PM) following SCAQMD's recommended procedure.

The predicted 2007 1-hour concentration in the western corner of the park (proposed park road) is 8.2 ppm. The 8-hour CO concentration was predicted by applying a persistance factor of 0.781 to the 1-hour value. The persistance factor is the average ratio between 1-hour and 8-hour maximum CO concentrations observed in 2000, 2001 and 2002. The predicted 2007 8-hour concentration at the park road is 8.0 ppm. The predicted 1-hour and 8-hour concentrations at the center of the park are 7.7 and 7.6 ppm. These predicted CO concentrations are below the state and federal air quality standards.

Table 6. Constituents in Sheldon-Arleta Landfill Gas.

Constituent (1)	**Health Hazard** above the Recommended or Permissable Limit	**Level In Landfill Gas (2)**	**Level In Flare Outlet(3)**	**Lower Explosive Limit (4)**	**Recommended or Permissable Exposure Limit (5)**	**Odor Threshold(6)**
Carbon Dioxide	Asphyxient	256,000	45,000	Not explosive	5,000 REL	odorless
Methane	Asphyxient	255,000	--	50,000	N/A	odorless
Oxygen	Non-toxic in most conditions	26,600	153,100	N/A	N/A	odorless
Hydrogen Sulfide	Headaches, discomfort, diarrhea and breathing paralysis.	10.9	<0.5ppm	40,000	10 REL	0.0047
Benzene	Cancer	0.182	<0.0002	13,000	0.1 REL 75.0 PEL	4.7
Benzylchloride = Chloromethyl benzene	Burns respiratory tract, skin, eyes, mucous membranes, suspect cancer hazard (in animals)	<0.040	<0.0008	11,000	1.0	.047
Chlorobenzene	Irritates respiratory tract, skin, eyes. Central nervous system depression	0.024	<0.0002	13,000	75 PEL	0.21

Constituent (1)	**Health Hazard** above the Recommended or Permissable Limit	Level In Landfill Gas (2)	Level In Flare Outlet(3)	Lower Explosive Limit (4)	Recommended or Permissable Exposure Limit (5)	Odor Threshold(6)
Dichlorobenzenes Two isomers: p-Dichlorobenzene and o-Dichlorobenzene	Cancer, kidney, liver, and lung damage	0.655	<0.0011 (p-) <0.0002 (o-)	25,000(p-) 22,000(o-)	75 PEL (p-) 50 REL (o-)	30 (p-) 50 (o-)
1,1-Dichloroethane	Damage to heart, kidneys.	<0.020	<0.0002	54,000	100 REL	445
1,2-Dichloroethane	Damage to nerves, liver, kidneys, lungs. may cause cancer	<0.020	<0.0002	62,000	1 REL	6
1,1-Dichloroethylene	Irritates respiratory tract, skin, eyes. Depress central nerve syst.	<0.030	<0.0002	65,000	5 ACGIH TWA	500
Dichloromethane	Cancer	<0.020	0.00485	130,000	25 PEL	214
1,2-Dibromoethane	Cancer	<0.020	<0.0002	N/A	0.045 REL	26
Perchloroethene = Tetrachloro ethylene	Irritant; liver damage; potential carcinogen	<0.020	<0.0001	nonflammable	100 PEL	1.0
Carbon tetrachloride	Irritant Potential carcinogen	<0.030	<0.0001	N/A	2 REL	214
Toluene	Irritation; liver, kidney damage	2.050	0.00072	11,000	100 REL	2.14
1,1,1-Trichloroethane	Irritant	<0.020	<0.0001	75,000	350	44
Trichloroethene	Irritant Potential carcinogen	0.024	<0.0001	80,000	100 PEL	2.14
Chloroform	Irritant Potential carcinogen	<0.020	<0.0001	N/A	2 REL	3.30
Vinyl Chloride	Gastrointestinal pain & bleeding; enlarged liver; Potential carcinogen	<0.020	<0.0002	36,000	1 PEL	"high concentrations"
m xylenes		2.490	0.00072	11,000	100 REL	4
O+p xylenes		0.522	0.0002	9,000	100 REL	0.05

(1) Constituent concentrations in this table are from samples taken October 14, 2003 for the City's quarterly report to SCAQMD persuant to Permit to Operate 342725 (Horizon Air Measurement Services, Inc.. *Emission Compliance Test on a Landfill Gas Flare. Permit to Operate A/N 288943*. City of Los Angeles Bureau of Sanitation Resources Engineering & Construction Division. November 6, 2003). All concentrations have been converted to parts per million (ppm) to make direct comparisons easier for the lay reader. This conversion can introduce

some technical inaccuracies that are negligible in the present context. Concentrations given as "less than" (<) are below the detection limit of the mandated test method (reported values are the detection limits). N/A means "not applicable."

(2) Measured level in gas drawn from within the buried refuse prior to treatment. The public is not exposed to these concentrations.

(3) Measured level at the mouth of the gas flare stack before mixing with ambient air.

(4) **Lower Explosive Limit (LEL)** The lower explosive limit (LEL) of a combustible gas is defined as the smallest concentration of the gas that will support a self-propagating flame when mixed with air (or oxygen) and ignited. From NIOSH Pocket Guide to Chemical Hazards (on line version http://www.cdc.gov/niosh/npg/npg.html) and others.

(5) **PEL** is the permissible exposure limit set by the Occupational Safety and Health Administration based on a time-weighted average concentration of a substance for a normal 8-hour work day and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day. **REL** is the recommended exposure limit set by the National Institute for Occupational Safety and Health based on a time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek. The data in the above table are from the NIOSH Pocket Guide to Chemical Hazards (on line version http://www.cdc.gov/niosh/npg/npg.html).

(6) Spectrum Laboratories, Inc. Ft. Lauderdale, FL & Savannah, GA. http://www.speclab.com/compound/chemabc.htm

Odors

The refuse in Sheldon-Arleta landfill generates odorous gases (Table 6). When odors are an issue, the SCAQMD recommends a quantitative assessment of potential odors and meteorological conditions. A quantitative assessment was done following the American Society of Testing Materials (ASTM) Standard Method D 1391, which considers how many times an air sample must be diluted with "clean" air before the odor is no longer detectable to an average adult with average odor sensitivity. The number of dilution needed to reach this threshold level is referred to as the "dilution to threshold" (D/T) factor. An odor with a D/T of 2 (2 parts of fresh air to one part of odorous air) becomes faintly detectable to almost all receptors. At 5 D/T, people become consciously aware of the presence of an odor, and at 5 to 10 D/T, the odor is strong enough to evoke registered complaints. The standard to utilize in assessing off-site odor exposure is preferably below 5 D/T and acceptable below 10 D/T.

The City tests the operation of the Sheldon-Arleta Landfill gas flare system quarterly and required by Permit to Operate 288943. The results from the City's November 6, 2003 quarterly report are shown in Table 6. Only two components of the landfill gas are in concentrations that exceed their odor thresholds: hydrogen sulfide and o+p xylenes. The landfill gas flares reduce the concentration of o+p xylenes well below the odor threshold. The concentration of hydrogen sulfide in the flare outlet is still above the odor threshold at a D/T of 100. It should be noted that the reported values for hydrogen sulfide odor threshold vary widely. The value used here (0.0047 ppm) is thought to be conservatively low.

Risk of Upset

The National Institute for Occupational Safety and Health has established recommended exposure limits (REL) based on a time-weighted average concentration for up to a 10-hour workday during a 40-hour work week. The Occupational Safety and Health Administration has established permissible exposure limits (PEL) based on a time-weighted average concentration of a substance for a normal 8-hour work day and a 40-hour work week, to which

nearly all workers may be repeatedly exposed, day after day. The concentrations of landfill gas components reported in the quarterly flare test cited in the preceding were compared with reported REL and PEL to determine the health risk of normal operations and upset conditions. Before treatment of the landfill gas, three components exceed the recommended or permissible exposure limit: carbon dioxide, hydrogen sulfide and benzene. The landfill gas flares reduce the concentration of hydrogen sulfide and benzene to concentrations well below the recommended exposure limits. As expected, carbon dioxide levels, though reduced, remain high in the flare stack.

If the gas flare stations were to release uncombusted gas, levels of hydrogen sulfide and benzene could be released at concentrations up to twice the the National Institute for Occupational Safety and Health recommended exposure limits based on a time-weighted average concentration for up to a 10-hour work day during a 40-hour work week. Further dilution within a short distance from the flare station would reduce these levels below the recommended exposure limits. Furthermore, it is unlikely that the typical park user exposure would be equivalent to a 10-hour work day and 40-hour work week.

Some components of the landfill gas are combustable when mixed with oxygen in certain concentrations. Reported concentrations of landfill gas components were compared with reported "Lower Explosive Limits" to determine the health risk of normal operations and upset conditions. The lower explosive limit (LEL) of a combustible gas is defined as the smallest concentration of the gas that will support a self-propagating flame when mixed with air (or oxygen) and ignited. Only methane is present in concentrations above the lower explosive limit in the untreated landfill gas. Methane is reduced to below detectable limits by the normal operation of the gas flare. In an upset condition the flare could release methane in combustable concentrations, but since methane is lighter than air, it would dissipate upward away from potential ignition sources.

Mitigation Measures

The following mitigation measures would reduce the potential impacts to air quality during construction to less than significant.

AQ1 All construction equipment shall be properly maintained and operated.

AQ2 Aqueous diesel fuels shall be used in all construction equipment, where feasible.

AQ3 Diesel oxidation catalysts shall be used in all construction equipment, where feasible.

AQ4 Land disturbance shall be minimized to the extent feasible.

AQ5 Disturbed land and open storage piles that will be left inactive for several days, shall be stabilized by one, or a combination, of the following methods: (a) appling a chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of 6 months, (b) covering, or (c) watering three times per day.

AQ6 Disturbed land that will not be paved as part of the project shall be revegetated as soon as possible.

AQ7 All active unpaved demolition and construction areas shall be wetted at least twice daily during excavation and construction. The construction area shall be sufficiently dampened to control dust caused by construction and hauling and at all times provide reasonable control of dust by wind.

AQ8 During periods of high winds (i.e., greater than 15 mph) either (a) cease all clearing, earth moving and excavation activities or (b) apply water to soil not more than 15 minutes prior to moving the soil.

AQ9 All truck loads of imported or exported soil or debris shall be either (a) securely covered or (b) comply with vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads and be sufficiently watered to prevent excessive amount of dust.

4.4 Biological Resources

No Impact. A vegetation survey was conducted on February 4 and 5, 2004 to provide a baseline record of existing plants, to determine whether any rare, threatened or endangered plants are present, to characterize the vegetation community and to identify any potential wildlife habitat value.

Forty-one vascular plant species were noted (listed in Table 7). Few of these plants, seven to nine (17.1% to 22.0%), were native and the vast majority was exotic. The large number of non-native species is indicative of a highly disturbed site, representative of no recognizable vegetation community. Many of the non-native plant species appear to have been planted as landscaping, but other species may have invaded as either ruderals or garden escapes. A limited number of native species has become established since the landfill's closure in 1974. Laurel sumac (*Malosma laurina*) was the most common. These species have been found in chaparral, alluvial scrub, oak woodland, and or riparian woodland type communities. Nevertheless, none of the individuals have collectively established a recognizable community.

Table 7. Plants in the Project Area. Surveyed on 2/4/2004 and 2/5/2004.

SPECIES	HABIT	COMMON NAME	FAMILY	CALIF. NATIVE
Acacia tortuosa	Shrub	Twisted acacia	Fabaceae	
Ambrosia acanthocarpa	Annual	Annual burr sage	Asteraceae	Y
Baccharis salicifolia	Shrub	Mulefat	Asteraceae	Y
Brassica nigra	Annual	Mustard	Brassicaceae	
Bromus diandrus	Grass	Ripgut brome	Poaceae	
Ceratonia siliqua	Tree	Carob tree	Fabaceae	
Chenopodium sp.	Annual		Chenopodiaceae	?

SPECIES	HABIT	COMMON NAME	FAMILY	CALIF. NATIVE
Cinnamomum camphora	Tree	Camphor tree	Lauraceae	
Cupaniopiopsus anacardioides	Tree	Carrot wood	Sapindaceae	
Cynodon dactylon	Grass	Bermuda grass	Poaceae	
Erodium sp.	Annual		Geraniaceae	
Eucalyptus globulus	Tree	Blue gum	Myrtaceae	
Eucalyptus sp.	Tree	Gum	Myrtaceae	
Fraxinus americana	Tree	Ash	Oleaceae	
Heliomeris hispida?	Annual		Asteraceae	
Heterotheca grandiflora	Annual	Telegraph weed	Asteraceae	Y
Lagerstroemia indica?	Tree	Crape myrtle	Myrtaceae	
Latuca serriola	Annual	Wild lettuce	Asteraceae	
Lepidospartum squamatum	Shrub	Scale-broom	Asteraceae	Y
Liquidambar styraciflua	Tree	Sweetgum	Hamamelidaceae	
Malosma laurina	Shrub	Laurel sumac	Anacardiaceae	Y
Malva neglecta	Annual		Malvaceae	
Nicotiana glauca	Tree	Tree Tobacco	Solanaceae	
Pinus canariensis	Tree	Canary Is. Pine	Pinaceae	
Pinus halepensis	Tree	Alleppo Pine	Pinaceae	
Platanus acerifolia	Tree	Plane Tree	Platanaceae	
Populus fremontii	Tree	Cottonwood	Salicaceae	Y
Quercus agrifolia	Tree	Coast live oak	Fagaceae	Y
Raphiolepis indica	Shrub	Indian hawthorne	Rosaceae	
Ricinus communis	Shrub	Castorbean	Euphorbiaceae	
Rosa sp.	Shrub	Rose	Rosaceae	
Rumex sp.	Perrennial	Dock	Polygonaceae	?
Salsola tragus	Annual	Tumbleweed	Chenopodiaceae	
Schinus molle	Tree	Peruvian pepper	Anacardiaceae	
Schinus terebinthifolius	Tree	Brazilian pepper	Anacardiaceae	
Ulmus parvifolia	Tree	Chinese elm	Ulmaceae	
Washintonia robusta	Tree	Mexican fan palm	Arecaceae	
Unknown #1	Tree		Unknown	
Unknown #2	Shrub		Unknown	
Unknown #3	Tree		Fabaceae	
Unknown #4	An. Grass		Poaceae	

Twenty species of trees and large shrubs were noted. Some of the larger specimens included ash (*Fraxinus americana*) and blue gum (*Eucalyptus globulus*). Of the native tree species, both a mature cottonwood (*Populus fremontii*) and a coast live oak sapling (*Quercus agrifolia*) were noted near the northeastern property boundary along Sharp Avenue. Some of the larger trees supported bird nests. Some clusters of trees and shrubs along the perimeter and near western portion of the property could provide some value as wildlife habitat. In all, the project site contains about 250-300 trees.

The California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants*, along with the California State Department of Fish and Game's Natural Diversity Database *(RAREFIND3* for the Van Nuys U.S.G.S. 7.5 minute Quadrangle), were consulted. The plants, animals and communities currently listed in these data bases are listed in Table 8. Five rare, threatened or endangered plant species have been reported in the general area. However,

none of these five species have been report to occur on the project site and none was seen during the survey for this project. Two plant communities of concern (Riversidian Alluvial Scrub or California Walnut Woodland) are not present on the property.

Table 8. Plants and Animals of Special Concern Reported in Project Vicinity.

Scientific Name	Common Name	Federal Status	State or CDFG Status	Global Rank	State Rank	CNPSList (R-E-D)
Berberis nevinii	Nevin's barberry	Endangered	Endangered	G2	S2.2	1B 3-3-3
Calochortus plummerae	Plummer's mariposa lily			G3	S3.2	1B 2-2-3
Chorizanthe parryi var *fernandina*	San Fernando Valley spineflower	Candidate	Endangered	G2T1	S1.1	SB 3-3-3
Dudleya multicaulis	Many-stemmed dudleya			G2	S2.1	1B 1-2-3
Emys (=Clemmys) marmorata pallida	Southwestern pond turtle	Species of Concern	SC	G3G4 T2T3	S2	
Malacothamnus davidsonii	Davidson's bush mallow	Species of Concern		G1	S1.1	1B 2-2-3
Phrynosoma coronatum (blainvillei)	Coast (San Diego) horned lizard		SC	G4 T3T4	S2S3	
Polioptila californica californica	Coastal California gnatcatcher	Threatened	SC	G3T2	S2	
California Walnut Woodland				G2	S2.1	
Riversidian Alluvial Fan Sage Scrub				G1	S1.1	

From Natural Diversity Database listing for USGS Van Nuys 7.5' Quadrangle as of January 5, 2004.

The project site is adjacent to but not a part of the Tujunga Spreading Grounds Significant Ecological Area, which is a Class 8 SEA (12). Class 8 SEA's are special areas having notable biological features (nesting, feeding, resting ground, for many migrating, resident and wintering birds) but not habitat for species or of concern.

In all, the project site contains about 250-300 trees. Depending on the final grading plan, all of the existing trees may be removed. The exact number of trees to be planted in the proposed landscaping has not been determined, but the extensive landscaped buffer area and typical park landscaping provide ample opportunity for replacement of removed trees at more than a 2-1 ratio.

4.5 Cultural Resources

No Impact. The project site is vacant. The buried landfill mass contains cultural materials but will not be disturbed by the proposed project except as necessary to install monitoring wells to protect public safety. There are no other known resources on site despite extensive excavation, drilling and other disturbances which should have revealed any significant

resources.

4.6 Geology and Soils
Less Than Significant After Mitigation.

Landfill Cap Analysis – Model studies predict that with actively growing grass on the surface, the average annual rainfall plus the projected irrigation water application of one inch per week shold not cause moisture to travel through the soil cap to the underlying waste (36). This model also shows that the evapostranspiration offered by the grass is an important part of the performance of the cap. Without the grass (and evapotranspiration), addition of similar amounts of water will saturate the cap. This means that it is important to match the addition of water with the capacity of the grass to uptake water. If this balance is upset, then the chance of inadvertently driving moisture down to the underlying waste is increased.

Geotechnical Feasibility – A preliminary geotechnical feasibility evaluation of improving the site for use as athletic fields was conducted in March, 2004 (37). Development of the site for athletic fields was deemed geotechnically feasible provided that the proposed site grading and improvements are designed, constructed and maintained in accordance with properly established geotechnical, as well as environmental, considerations. The primary geotechnical considerations are future total and differential settlement.

Maintaining Site Grades -- Surface settlement at the site was approximated by comparing the site's topography in 1996 with the site's topography in 2002 and estimated a park-wide settlement rate of 7.4 inches per year based generalized average approximate ground surface settlement data (37). That approximation assumed all topographical change was due to settlement. Since some topographic changes could have been produced by surface grading, additional observations were made (and are on-going) based on survey monuments specifically designed to track settlement. The current data indicate settlement since February has averaged 2.4 inches per year (measured rates varied from 0.8 to 4.4 inches per year). This implies that settlement in the active-use areas of the park (about 30 acres) will be about 10,000 cubic yards per year. The actual settlement will vary from these estimates and will impact the required import fill to satisfy the condition of annually importing fill to maintain site grades.

Settlement studies are continuing, therefore a detailed analysis of specific locations and proposed uses within the park is not available at this time.

Mitigation Measures

The following mitigation measures would reduce the potential impacts due to settlement to less than significant.

G1. Subject to recommendations by the Local Enforcement Agency and approval by the Regional Water Quality Control Board Final, the cover inspection and maintenance program of the Sheldon-Arleta Landfill Final Closure and Post-Closure Maintenance Plan shall be modified as follows: (a) routine evaluations and inspections shall be increased from "at least twice a year" to weekly inspections by park staff; (b) the number of survey

monuments used to determine settling shall be increased from three to no less than 12; and (c) the frequency at which site settling (differential and total) is determined shall be increased from "once every 5 years" to annually.

G2. Subject to recommendations by the City Engineer and approval by the Department of Building and Safety, site improvements shall be consistant with the recommendations of the Preliminary Geotechnical Feasibility Evaluation (37) except those recommendations that are contrary to the general locations of active and passive uses as shown in the Conceptual Park Plan developed in community meetings.

4.7 Hazards and Hazardous Materials

Less Than Significant After Mitigation. The project site contains about three million tons of residential and commercial refuse deposited from 1962 to 1974. The decomposing refuse generates hazardous gases and could generate toxic leachate if improperly managed. The Final Closure and Post-closure Maintenance Plan (26) identifies the potential risks and provides monitoring and response protocols to assure these hazards are properly managed. The Plan identifies the mechanisms to initiate any required investigation and/or remediation, and which government agency will provide appropriate regulatory oversite. Following the Plan as proposed will prevent significant risks to human health from the release of landfill gas and leachate and will prevent any significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The project is within one-quarter mile of Francis Polytechnic High School. In 2001, an endangerment assessment for Francis Polytechnic High School (30) concluded that past activities at or near the school (including the landfill) have impacted the environment but pose a low risk and hazard to the adult staff and students at the school. Gas emissions and leachate relating to the closed landfill will continue to be monitored and appropriately handled following the Final Closure and Post Closure Maintenance Plan, therefore the project will not be a significant risk to the school.

In 2002, SCS Engineers analyzed the safety of siting a major league baseball academy at the Sheldon Arleta Landfill (23). The academy was to consist principally of five baseball diamonds, one or more small grandstands, night lighting, and a 20,000 square foot clubhouse. SCS Engineers concluded that, "Landfill gas generation and release from the Sheldon Arleta Landfill would pose no significant health or safety risk to future outdoor users of a Baseball Academy." In fact, SCS Engineers identified many examples of recreational facilities built and successfully operated upon closed landfills, several in Southern California.

In 2004, Kleinfelder, Inc., performed a screening human health risk assessment for the currently proposed park project (38). The purpose of the assessment was to answer two key questions: are chemicals present in the landfill cap that may pose a hazard to human health, and if so, what level of hazard do they pose? Samples were taken to identify chemicals of potential concern. The magnitude, frequency, duration and pathways of potential exposure to these chemicals were evaluated. Cancer risk and noncancer hazard were then characterized.

The 2004 Kleinfelder study estimated that the sum of cancer risk estimates for soil ingestion, dermal contact, and dust inhalation is 2×10^{-6}, which slightly exceeds the target cancer risk of 1×10^{-6}. The sum of the noncancer hazard estimates for the same exposure pathways is 0.05, which is less than the target noncancer hazard index of 1.0. The study concluded that, although the calculated cancer risk slightly exceeds the target risk, about 99% of the risk is due to the use of the maximum soil concentration of arsenic as the exposure point concentration. The maximum concentration is likely to be a significant overestimate of the actual exposure point concentration because arsenic was detected in only 3 of 42 soil samples analysed. Soil mixing during site grading is likely to reduce localized peack concentrations. Furthermore, the existing surface soil will be covered with grass or pavement which will reduce or eliminate exposure to the fill material. Therefore, the probability of exposure to arsenic and the resulting cancer risk under actual conditions is expected to be much lower than that calculated. It is important to note that the State Department of Toxic Substance Control generally does not require action on proposed school sites where the cancer risk is only 2×10^{-6} or less. Kleinfelder concluded that further investigation or remediation is not warranted.

Methane Gas Ordinance -- On February 4, 2004 the City Council established citywide methane mitigation requirements, including more current construction standards to control methane intrusion into buildings (Council File 01-1305). The Council adopted an ordinance amending Section 91.106.4.1 and Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code to establish Citywide methane mitigation requirements. The requirements and standards will be met by the proposed project.

Mitigation Measures:

HAZ1. The site shall not be used for recreation until (a) a Final Closure and Post Closure Maintenance Plan has been approved by the California Integrated Wste Management Board and the California Regional Water Quality Control Board, Los Angeles Region, and (b) the Local Enforcement Agency has determined that site improvements are consistent with the approved plan.

4.8 Hydrology and Water Quality

Less Than Significant After Mitigation. The proposed project will require modification of the final cover grades, requiring revision of the Sheldon/Arleta Landfill Final Closure and Post-Closure Maintenance Plan, following the requirements of the Regional Water Quality Control Board.

Landfill Cap Analysis – Model studies predict that with actively growing grass on the surface, the average annual rainfall plus the projected irrigation water application of one inch per week shold not cause moisture to travel through the soil cap to the underlying waste (36). This model also shows that the evapostranspiration offered by the grass is an important part of the performance of the cap. Without the grass (and evapotranspiration), addition of similar amounts of water will saturate the cap. This means that it is important to match the addition of water with the capacity of the grass to uptake water. If this balance is upset, then the chance of

inadvertently driving moisture down to the underlying waste is increased.

Mitigation Measures:

HAZ1. The site shall not be used for recreation until (a) a revised Final Closure and Post Closure Maintenance Plan has been approved by the California Integrated Wste Management Board and the California Regional Water Quality Control Board, Los Angeles Region, and (b) the Local Enforcement Agency has determined that site improvements are consistent with the approved plan.

4.9 Land Use and Planning

Less Than Significant After Mitigation. The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The project site is in Sun Valley. The Sun Valley Community Plan (Adopted by City Council 9-23-77, CF 75-5425 and subsequently amended) designates the site for use as a regional park. The plan states:

> "The proposed Regional Park located at the Sheldon-Arleta Landfill Site should be developed with special consideration for the recreational needs of Francis Polytechnic High School, with particular emphasis on swimming activites and needs of other city departments. Any development on this site will require a complete environmental analysis due to the previous landfill operations."
>
> "The Plan suggests two standard types of parks, based on a 1995 projected need:
>
> 1. Neightborhood Parks: 1 acre per 1,000 residents; minimum site size 5 acres; service radius ½ mile;
>
> 2. Community Parks; 1 acre per 1,000 residents; minimum site size 15 acres; service radius 1 ½ miles."
>
> "There are no acreage standards for Regional Parks: These facilities provide specialized recreational activities such as golf courses, tennis courts, camp grounds and museums, which normally serve people living throughout the City."

The project site is designated open space in the city's General Plan and is zoned as open space extra limited height district (OS-1XL-G). It is the purpose of the "OS" Open Space Zone to provide regulations for publicly owned land in order to implement the City's adopted General Plan, including the recreation, parks and open space designations in the City's adopted district and community plans, and other relevant elements, including the Open Space, Conservation and Public Recreation Elements. Implementation of the General Plan will serve

to protect and preserve natural resources and natural features of the environment; to provide outdoor recreation opportunities and advance the public health and welfare; to enhance environmental quality; to encourage the management of public lands in a manner which protects environmental characteristics; and to encourage the maintenance of open space uses on all publicly owned park and recreation land, and open space public land which is essentially unimproved. Parks and recreation facilities, including: bicycle trails, equestrian trails, walking trails, nature trails, park land/lawn areas, children's play areas, picnic facilities, and athletic fields (not to exceed 200 seats in park) used for park and recreation purposes are allowed in the Open Space Zone (LAMC Sec. 12.04.05). The total floor area contained in all the main buildings on a lot in Height District No. 1 may not exceed three times the buildable area of the lot.

Buildings and structures in the Extra Limited Height District may not exceed two stories, and the highest point of the roof of any building or structure in such District may not exceed 30 feet in height. Athletic field lighting typically exceeds 30 feet in height and therefore would require approval of a variance if added to the project later. The Planning Department recently approved a variance for field lighting for baseball fields previously proposed for this site. The findings of the Planning Department relative to their previous action have been considered and incorporated into this report where relevant. In the event that field lighting is proposed, it would not risk a significant impact with the mitigation measures identified in Section 4.1 above.

4.10 Mineral Resources

No Impact. Sand and gravel were extracted from the project site and the excavated void has been filled with municipal solid waste and cap/cover deposits. Additional mineral extraction is not feasible. Therefore the site is no longer considered a locally-important mineral resource recovery site delineated in the city's general plan, nor any specific plan or other land use plan, and the project could not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

4.11 Noise

Less Than Significant After Mitigation. The project would result in temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (detailed in Appendix C). However, the elevation in noise levels will not be significant.

Most of the area surrounding the proposed site contains land uses that are not sensitive to ambient noise: the Route 130 Freeway, settling basins; commercial offices and a public high school's athletic fields. However, the eastern property line of the project site is 60 feet away from residences on Sharp Avenue. Residences are noise-sensitive land uses.

The site's current topography partially shields the residences on Sharp Avenue from noise generated by traffic on Wicks Street, Arleta Avenue, Sheldon Street and the Route 170 freeway.

Sound levels surrounding the site were 53 to 69 dBA around noon on a holiday (Table 9). Inasmuch as traffic is light on holidays (and there were no other major noise sources such as

yard work or sports events), the observed sound levels are probably lower than typical and therefore environmentally conservative.

Table 9. Observed Ambient Noise Levels.

Location	L_{EQ}	L_{max}	L_5	L_{10}	L_{50}	L_{90}	L_{min}
Arleta Ave east side Mid-block	65.2	79.7	71.7	69.1	60.1	55.2	52.1
Sheldon St south side Mid-block	68.6	83.2	73.5	72.0	66.2	61.6	59.4
Sharp Ave east side At Allegheny St	52.5	64.0	56.4	55.0	51.0	48.5	46.4
Wicks St south side Mid-block	60.0	82.6	63.8	58.7	50.1	48.1	46.7
Single 15-minute intervals between 11:00 AM and 12:15 PM on February 16, 2004 (a holiday).							

Construction noise is presumed to be significant if the construction activies:

1. lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use (i.e. 58 dBA at the Sharp Ave residences);

2. lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use (i.e., 68 dBA at the Sharp Ave residences); or

3. would exceed the ambient noise level by 5 dBA at a noise-sensitive use (58 dbA at the Sharp Ave residences) at night (9:00 PM to 7:00 AM), Monday through Friday, or before 8:00 AM or after 6:00 PM on Saturday) or at anytime on Sunday (12).

The Los Angeles Municipal Code does not allow construction activities at night (9:00 PM to 7:00 AM), Monday through Friday, or before 8:00 AM or after 6:00 PM on Saturday or at anytime on Sunday. Therefore significance criterion 3 will be met.

The noisiest construction activity would be grading and trenching, estimated to be 86 dBA at 50 feet (12). Grading is expected to take several days. Typically, noise fades by 4.5 decibels for each doubling of the source-to-receptor distance in areas with soft surfaces. The center of the proposed park is about 700 feet away from the closest residences. Attenuation alone will reduce sound levels to 69 dBA. A significant impact from construction noise would be prevented by implementing the mitigation measures listed below.

A long-term increase of 5 dB over existing levels would be considered significant. Based on earlier, similar projects (31) we estimate the noise from the proposed athletic fields while in use would be 74 dBA if measured at a distance of 50 feet. The additive effects of a group of fields could produce noise at 77 dBA. The nearest field will be about 400 feet from the nearest residence. In the proposed park setting, the noise can be expected to decrease by

4.5 dB for each doubling of the distance between source and receptor, so a 77 dBA sound source would be reduced to 65 dBA at a distance of 400 feet. To reach a level below 58 dB, the fields would have to be shielded by a noise barrier providing 19 dB. This level of sound reduction can be easily provided by a sound wall or berm.

The project includes creation of a buffer area and a sound attenuation berm between the active recreation areas and the residences on Sharp Avenue. Significant impacts from construction or operational noise would be avoided with the following mitigation measures:

N1. The sound attenuation berm shall be designed to provide sound attenuation for Sharp Avenue residences that is comparable to or better than the sound attenuation provided by the existing park contours. The barrier shall be designed to block direct line-of-site paths between residences on Sharp Avenue and active areas of the park (including public roads and including spectator areas associated with athletic fields).

N2. To achieve the greatest possible noise attenuation for Sharp Avenue residents, the sound attenuation berm shall be as close to Sharp Avenue as is feasible.

N3. Grading for the sound attenuation berm along Sharp Avenue shall be done as early as possible in order to maximize shielding of Sharp Avenue residences from construction noise.

N4. Amplified sound shall be regulated by the Department of Recreation and Parks such that amplified sound shall not cause exterior noise levels at residences along Sharp Avenue to exceed the city's maximum noise standards for a residential zone. More and smaller speakers shall be used in lieu of fewer and louder speakers and the speakers shall be oriented to project sound away from Sharp Avenue.

4.12 Population and Housing

No Impact. The project site is in a developed area but does not itself contain any habitable structures. The project will serve an existing need. Therefore, the project will not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure), nor will the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.13 Public Services

Less Than Significant. The project is in the North Hollywood Area of the Police Department's Valley Bureau. The nearest fire station is Fire Station 89 at 7063 Laurel Canyon Blvd. The project would increase incrementally the need for services from the Police, Fire and Recreation and Parks Departments, but would not require the construction of additional new facilities in order to maintain acceptable service ratios, response times, etc.

4.14 Recreation

Less Than Significant After Mitigation. The project does include recreational facilities whose potential adverse physical effects on the environment are the subject of this report. With mitigation, the project will not have an adverse physical effect on the environment.

4.15 Transportation/Traffic

Less Than Significant After Mitigation. The Department of Transportation requires a detailed traffic impact analysis for projects generating or diverting 500 trips per day or exceeding 43 trips during the PM peak hour. An initial review indicated that traffic generated by the proposed facilities would exceed 43 trips during the PM peak hour, therefore a detailed traffic impact analysis was done and is attached to this report as Appendix A. The following summarizes that analysis.

Construction of the proposed project is scheduled to begin in August or September of 2005 and is expected to be completed in March 2007. Therefore, for purposes of this traffic analysis, the project opening year is 2007. The traffic study examines existing traffic conditions, analyzes future conditions, and identifies traffic impacts and potential mitigation measures for improving traffic flow and circulation. The following scenarios were analyzed to determine the impacts (if any) on the Level of Service at the key intersections within the project area:

- Existing conditions (2004).
- Project opening year (2007) without project. This includes existing traffic + ambient growth + related project traffic.
- Project opening year (2007) with project. This includes existing traffic + ambient growth + related project traffic + project traffic.

Level Of Service Methodology

The level of service (LOS) concept was developed to evaluate the operating conditions of components of a transportation circulation system. The *Highway Capacity Manual* (32) defines LOS as a qualitative measure which describes operational characteristics within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience. LOS is rated from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. Specific criteria are used to define LOS for different types of facilities as discussed below.

Signalized Intersection LOS

The City of Los Angeles uses the Critical Movement Analysis method described in the Transportation Research Board Circular 212 to analyze traffic operating conditions at study intersections. The method is for evaluating signalized intersections and involves the computation of volume-to-capacity (V/C) ratios for each critical movement. Capacity, or saturation flow rate, is defined as the maximum rate of flow that can pass through a given intersection approach under prevailing traffic and roadway conditions. The sum of all critical movements on a critical lane basis is used to determine the total intersection volume to capacity ratio (V/C) and corresponding Level of Service (LOS) from Table 10. For purposes of

this analysis, LOS C or better is defined as acceptable service levels for signalized intersections.

Table 10. Level of Service Criteria for Signalized Intersections.

LOS	Definition	V/C Ratio
A	Excellent. No vehicle waits longer than one red light and no approach phase is fully used.	0.000 to 0.600
B	Very Good. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	0.601 to 0.700
C	Good. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	0.701 to 0.800
D	Fair. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	0.801 to 0.900
E	Poor. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	0.901 to 1.000
F	Failure. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	Above 1.00

From: Transportation Research Board, Circular No. 212, *Interim Materials on Highway Capacity,* 1980.

The Critical Movement Analysis for this study used standard parameters including default saturation flow rates, defined as the maximum number of vehicles that can pass through a lane per hour of green time at a signalized intersection; and clearance interval defined as a percentage of the overall intersection capacity utilized by vehicles to clear the intersection during the amber or yellow signal. A default saturation flow rate of 1,500 vehicles per hour per lane (vphpl) was used in this analysis when a signal has 2 phases. For a signal with 3 phases, a saturation flow rate of 1,425 vphpl was used. For a signal with 4 or more phases, 1,375 vphpl was used.

Table 11. Level of Service Criteria for Unsignalized Intersections.

LOS	Description	Average Control Delay (seconds/veh.)
A	Very low delay. Most vehicles do not stop at the intersection.	$\leq$ 10
B	More vehicles stop than with LOS A, causing higher delays.	> 10 and $\leq$ 15
C	The number of vehicles stopping becomes significant, though many still pass through the intersection without stopping.	> 15 and $\leq$ 25
D	The influence of congestion becomes more noticeable. Many vehicles stop and the proportion of vehicles not stopping declines.	> 25 and $\leq$ 35
E	Results in delay considered to be unacceptable.	> 35 and $\leq$ 50
F	Considered unacceptable to most drivers, often occurs with over saturation, when arriving traffic exceeds the capacity at the intersection.	> 50

Source: *Highway Capacity Manual*, 2000.

Unsignalized Intersections

Analysis of stop-controlled intersections used the Transportation Research Board's methodology for unsignalized intersections (32). The Board established procedures for analyzing two-way and all-way stop controlled intersections. The *Highway Capacity Manual* methods calculate the average total delay at intersections. LOS for unsignalized intersections is based on the average control delay as shown in Table 11. The *L.A. CEQA Thresholds Guide*, if an unsignalized intersection is projected to operate at LOS C, D, E or F, the intersection should be re-analyzed using the signalized intersection methodology to determine the significant of impacts.

The impact thresholds used in this analysis are consistent with those found in the LADOT *Traffic Study Policies and Procedures* (35). A project is considered to have a significant traffic impact at signalized intersections if the project-related increase in the volume-to-capacity (V/C) ratio equals or exceeds the threshold shown in Table 12. LADOT does not specifically define significance criteria for unsignalized intersection.

Table 12. Significant Impact Thresholds for Intersections.

LOS	Final V/C [(1)] Ratio	Project-Related Increase in V/C
C	> 0.700 to 0.800	equal to or greater than 0.040
D	> 0.800 to 0.900	equal to or greater than 0.020
E/F	> 0.900 or more	equal to or greater than 0.010

Source: LADOT, *Traffic Study Policies and Procedures*, 2002.

(1) The volume-to-capacity (V/C) ratio for an intersection is the summation of the V/C ratios for the critical movements within the intersection. The higher the V/C ratio the closer the intersection is operating to capacity. A road would be at capacity when the V/C ratio is 1.0.

According to LADOT *Traffic Study Policies and Procedures*, a local residential street is deemed significantly impacted based on an increase in the projected average daily traffic (ADT) volumes (Table 13).

Table 13. Significant Impact Thresholds for Local Residential Streets.

Projected Average Daily Traffic with Project (Final ADT*)	Project-Related Increase in ADT
0 to 999	16 percent or more of final ADT
1,000 or more	12 percent or more of final ADT
2,000 or more	10 percent or more of final ADT
3,000 or more	8 percent or more of final ADT

Source: LADOT Traffic Study Policies and Procedures.
*Final ADT is defined as projected future conditions including project, ambient, and related project growth but without project traffic mitigation.

Existing Conditions

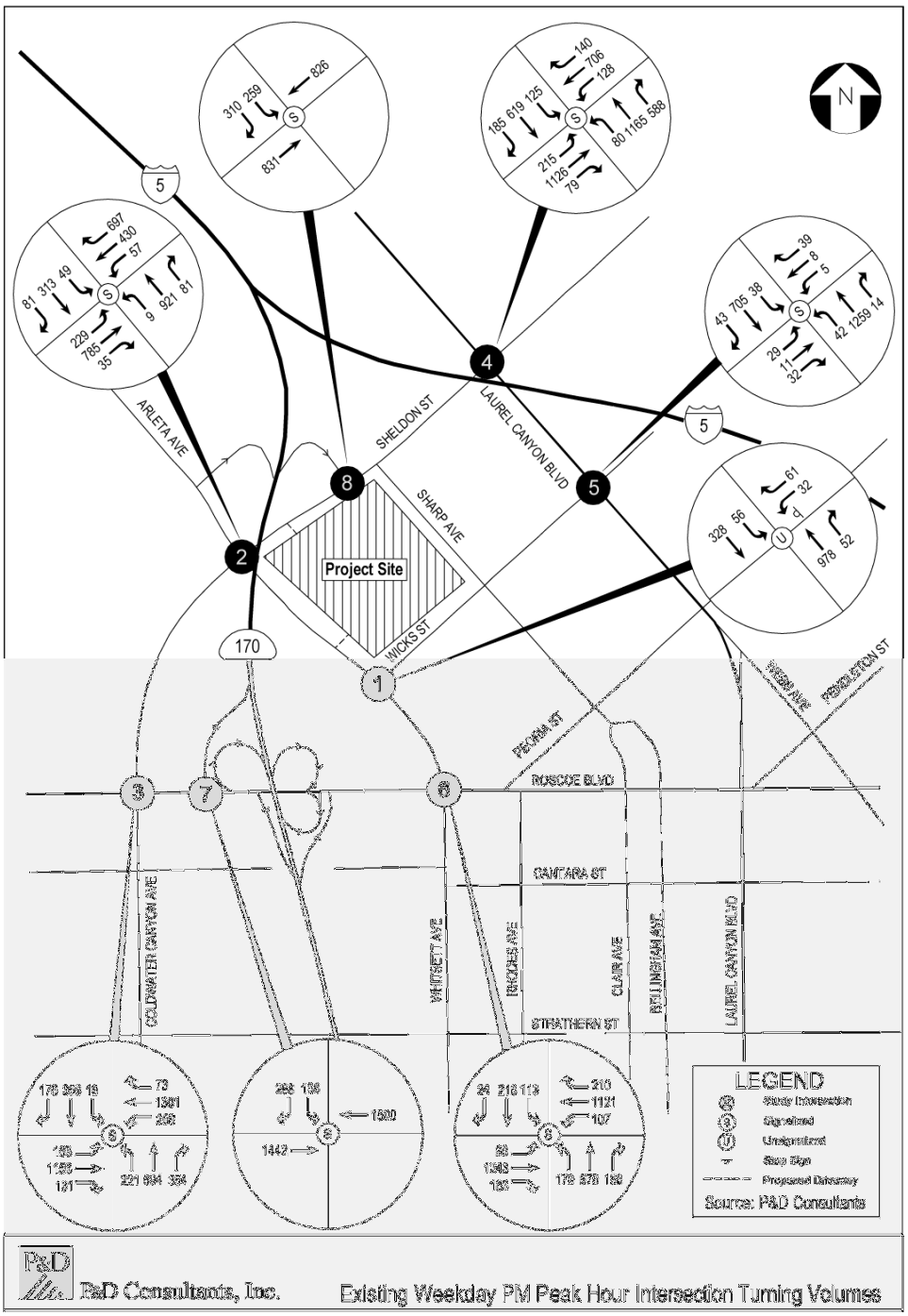

Figure 4. Existing Weekday PM Peak Hour Intersection Turning Volumes.

Sheldon Street/Coldwater Canyon Avenue is classified as a Secondary Highway (Refer to Appendix A for Street Designations and Standards). To the north of its intersection with Roscoe Blvd., the roadway is named Sheldon Street and to the south is named Coldwater Canyon Avenue. The roadway provides two lanes of travel in each direction and the speed limit is 35 miles per hour (mph). North of Roscoe Blvd, the travel lanes are separated by a painted centerline and on-street parking is prohibited. South of Roscoe Blvd there is a two-way left turn and on-street parking is permitted. The land uses along the roadway are primarily single family and multi-family residential.

Arleta Avenue/Whitsett Avenue is classified as Secondary Highway and extends along the west border of the project site as four-lane facility. To the north of its intersection with Roscoe Blvd the roadway is named Arleta Ave. and to the south is named Whitsett Ave. both segments have a two-way left turn and provide two lanes of travel in each direction. Parking is prohibited on Arleta Ave. adjacent to the project site but is allowed south of Roscoe Blvd. Left turn pockets are provided at signalized intersections. The speed limit is 35 mph and land uses are mostly residential with some commercial. Access to the project site

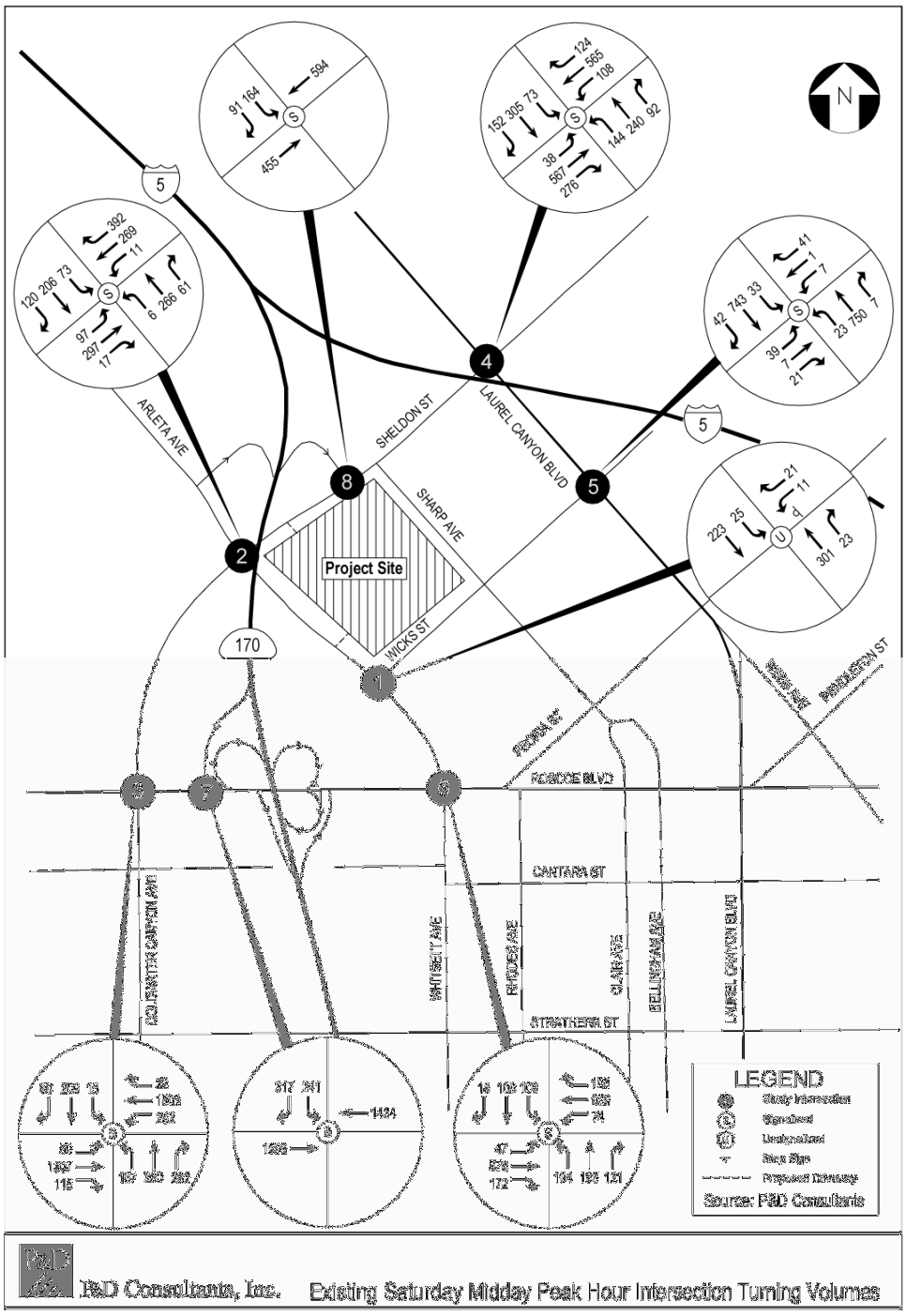

Figure 5. Existing Saturday Midday Peak Hour Intersection Turning Volumes.

is provided along Arleta Ave.

Laurel Canyon Blvd is classified as a Major highway and is located a couple blocks east of the project site. The roadway provides two travel lanes in each direction, which are separated by a two-way left turn lane. There is a bike lane on both sides of Laurel Canyon Blvd and the speed limit is 35 mph. On-street parking is permitted on some segments and there are left turn pockets provided at nearly all intersections. The land uses along the roadway are mostly commercial and residential, including single-family dwelling and apartment complexes.

Roscoe Blvd. is classified as a Major Highway. In the vicinity of the project site, Roscoe Blvd has four-lanes with two in each direction and includes a two-way left turn lane. Near the interchange with the Hollywood Freeway (SR-170), the roadway provides three travel lanes in each direction and continues westward as a six-lane facility. The speed limit on Roscoe Blvd is 35 mph and on-street parking is allowed on select segments during the off-peak hours from 9:00 AM to 4:00 PM. To the east of Arleta Ave. there is a bike lane on both sides of the street. Left turn pockets are provided at nearly all intersections. The land uses

along Roscoe Blvd are mostly commercial and retail with some apartment complexes.

Wicks Street is classified as Collector Street and is located along the south border of the project site and passes the residential area to meet Laurel Canyon Blvd. The roadway provides one travel lane in each direction. On-street parking is prohibited to the west of Sharp Ave. and allowed to the east of Sharp Ave. The intersection of Wicks Street and Sharp Ave. is a four-way STOP unsignalized intersection.

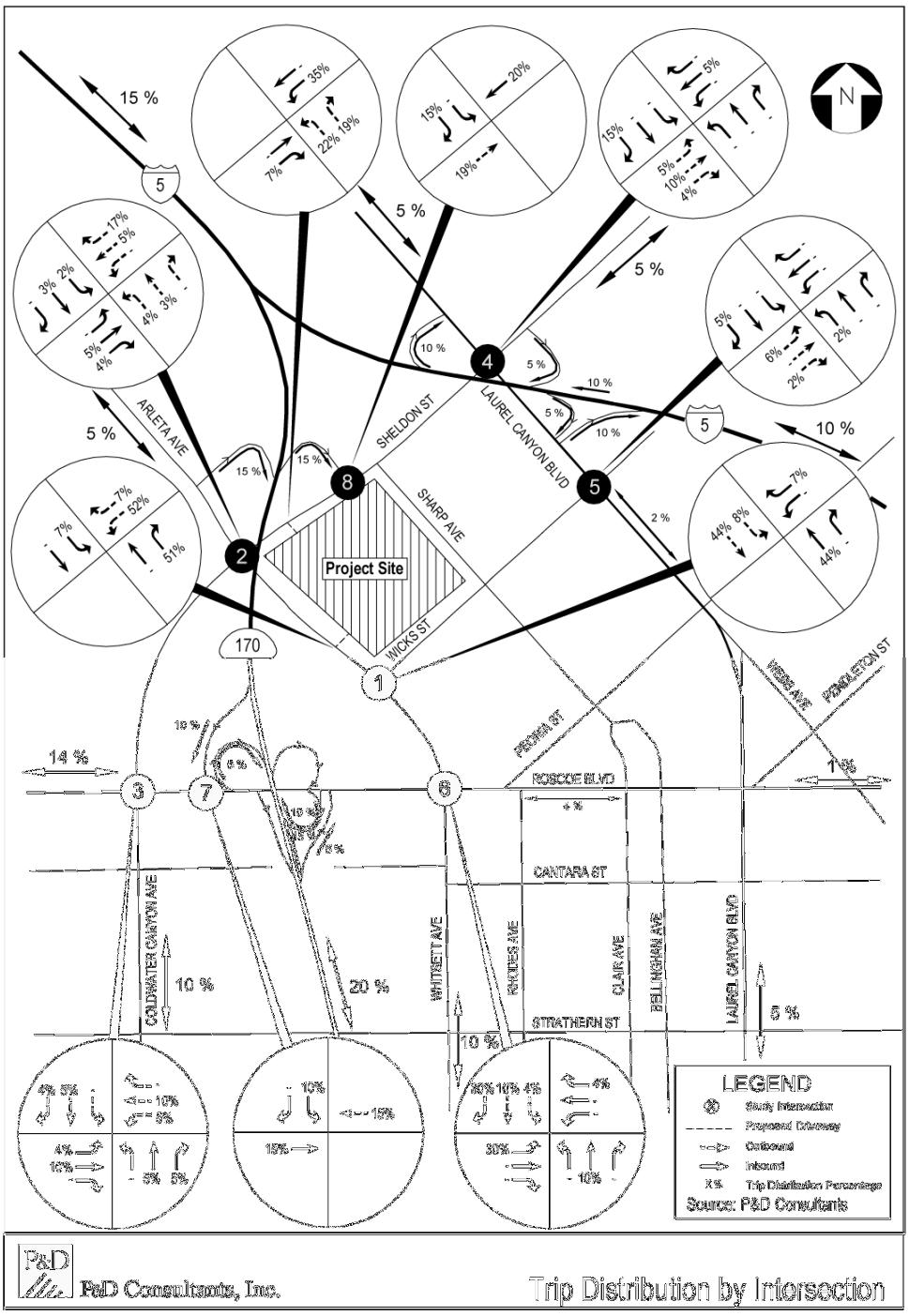

Figure 6. Trip Generation by Intersection.

Existing Traffic Volumes

Existing traffic conditions were determined by machine and manual counts in March of 2004. 24-hour machine tube counts were taken on Wicks St. just west of intersection of Wicks St. & Laurel Canyon Blvd. Weekday peak period (4-6 PM) and Saturday mid-day peak period (12-2 PM) manual counts were done at the eight intersections listed above to determine intersection turning movements. Figure 4 presents the existing 2004 weekday PM peak hour turning volumes at the study intersections. Figure 5 presents the existing 2004 Saturday midday peak hour turning volumes at the study intersections.

Existing Levels Of Service

Level of Service (LOS) analyses were performed for the study intersections based on traffic counts taken during the weekday PM peak hour and the Saturday midday period (12-2 PM). Under existing conditions, the intersections of Sheldon St. with Arleta Ave., Roscoe Blvd and Laurel Canyon Blvd operate at unacceptable levels of service (LOS D or worse) during weekday PM peak hour. During Saturday midday peak hour, all intersections operate at acceptable level of service except the intersection of Roscoe Blvd and SR-170 Southbound off-ramp which operates at an unacceptable level of service (LOS D). Under existing conditions, the unsignalized intersection of Arleta Ave. and Wicks St. operates at acceptable LOS C or better during both the weekday PM peak hour and the Saturday midday peak hour.

The study area for the traffic impact analysis, including the roadway segments and intersections evaluated in this analysis, was established in consultation with the Los Angeles Department of Transportation. A preliminary analysis was conducted to determined project-generated trips at intersections. Based on the preliminary analysis and consultation with LADOT, eight intersections were selected for further evaluation:

1. Arleta Ave. & Wicks St.
2. Arleta Ave. & Sheldon St.
3. Sheldon St. & Roscoe Blvd.
4. Sheldon St. & Laurel Canyon Blvd.
5. Wicks St. & Laurel Canyon Blvd.
6. Arleta Ave. & Roscoe Blvd.
7. Roscoe Blvd & SR-170 SB off-ramp
8. Sheldon St. & SR-170 NB off-ramp

Neighborhood intrusion impacts were analyzed to see if the proposed project will have a significant adverse impact on Wicks St. between Sharp Ave. and Laurel Canyon Blvd.

Table 14. Trip Generation Rates by Activity.

Land Use	Day	Time Period	Trip Generation Rate (per field or court)		
			Inbound	Outbound	Total
Soccer Field	Weekday	P.M. Peak Hour	18	18	36
		Daily	70	70	140
	Saturday	Midday Peak Hour	18	18	36
		Daily	140	140	280
Baseball Field	Weekday	P.M. Peak Hour	17.5	2.5	20
		Daily	40	40	80
	Saturday	Midday Peak Hour	20	20	40
		Daily	120	120	240
Basketball Court	Weekday	P.M. Peak Hour	2	2	4
		Daily	15.5	15.5	31
	Saturday	Midday Peak Hour	2	2	4
		Daily	15.5	15.5	31

Table 15. Project Trip Generation.

Land Use	Size	Daily Trips Total		Weekday PM Peak Hour			Saturday Noon Peak Hour		
		Weekday	Saturday	In	Out	Total	In	Out	Total

Soccer Fields	7 fields	980	1960	126	126	252	126	126	252
Baseball Fields	2 fields	160	480	35	5	40	40	40	40
Basketball	2 courts	62	62	4	4	8	4	4	8
Net New Trips		1,202	2,502	165	135	300	170	170	340

Table 16. Proposed Nearby Projects Considered in Traffic Analysis.

Related ID (LADOT)	Traffic Index Number*	Project Name	Project Description	Street	Cross-street
225	2	Shopping Center	18,760 sf shopping center	Laurel Canyon Blvd	Jerome St.
437	3	Industrial Park	550,000 sf self storage facility	Branford St.	San Fernando Road
604	4	Fast food Restaurant with drive-through	2,516 sf fast food restaurant with drive through	Laurel Canyon Blvd	Osborne St.
-	5	East Valley High School #1A	1,633 seat high school	Arleta Ave.	Roscoe Blvd

Project Trip Generation

The trip generation rates used for this analysis are listed in Table 14. Since the land use of picnic area and children's play area are usually incidental to the soccer and baseball fields, trips generated from these land uses are already included.

Table 15 shows project generated traffic based on the trip generation rates in Table 14. The project is expected to generate about 1,202 vehicle trips daily and 300 vehicle trips (total of both directions) during the PM peak hour on weekdays. On Saturdays, the project is expected to generate about 2,502 trips daily and 340 trips during the midday peak hour.

Project Trip Distribution

Project trip distribution, the general directions that traffic associated with a project would use to travel into and out of the study area, was established in consultation with LADOT as follows: 30% to the north, 11% to the east, 45% to the south, and 14% to the west. Areas south of the proposed project site receive the highest percentage of project traffic because of dense residential areas south of the site. About 60% of project traffic is expected to use the vehicular entrance from Arleta Avenue (the primary entrance) and approximately 40% is projected to use the Sheldon Street entrance (the secondary entrance).

Project Trip Assignment

Trip assignment is the determination of the specific routes that project traffic will use. The major factors affecting route selection are travel time and distance. Often, the shortest route is also the quickest, but when the two paths are different, drivers usually will select the quickest route, assuming all other factors are equal. Other considerations in route selection are scenic quality and safety. Trip assigment for the proposed project is shown in Figure 7 (Weekday PM Peak Hour) and Figure 8 (Saturday Midday Peak Hour).

Traffic Impact Analysis (2007)

The year 2007 was assumed to represent the project opening year. A two percent annual growth rate was applied to both observed mid-block daily traffic volumes and observed intersection peak hour turning movements to obtain the base 2007 background (without project) traffic volumes. The total 2007 background (without project) traffic volumes were then calculated by adding traffic associated with a number of nearby proposed projects (Table 16), to the base traffic volumes. Project related traffic impacts were determined by comparing intersection levels of service with and without the project. Significant traffic impacts were identified based on the LADOT policies and procedures.

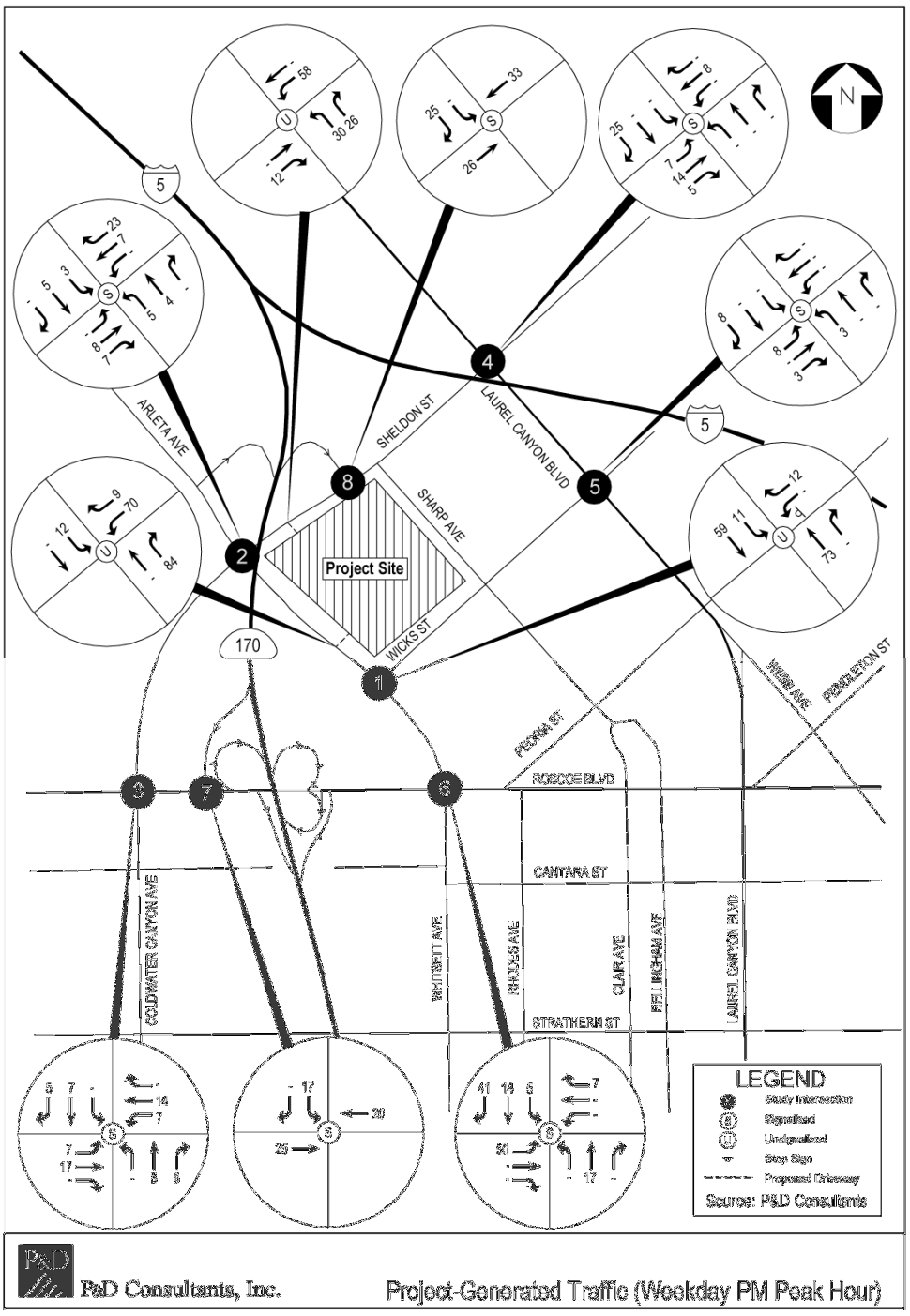

Figure 7. Project-Generated Traffic (Weekday PM Peak Hour).

Figure 9 and Figure 10 show the 2007 traffic conditions without the project for the weekday PM peak hour and Saturday midday peak period, respectively. Figure 11 and Figure 12 show traffic conditions with the project for the weekday PM peak hour and Saturday midday peak period, respectively.

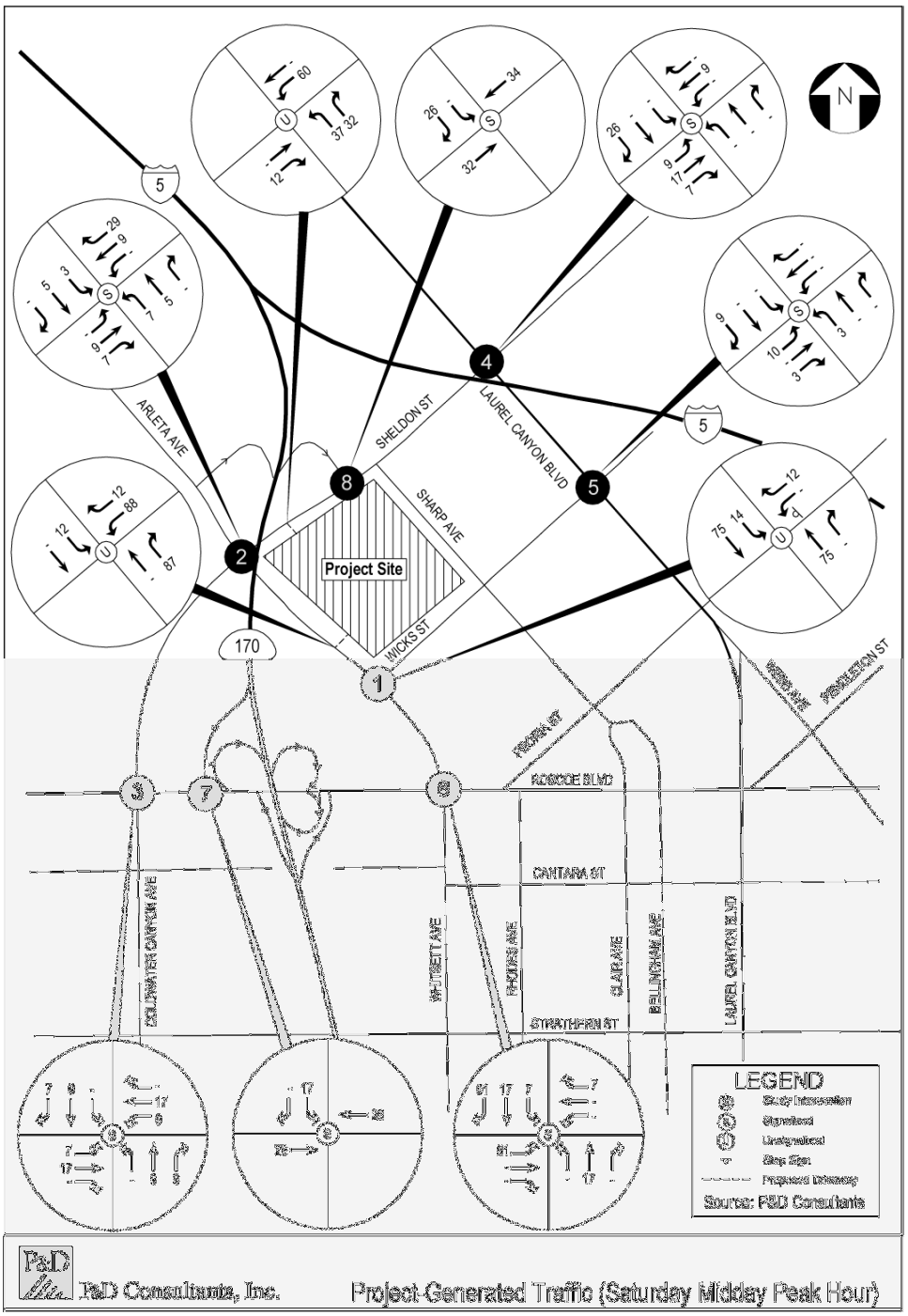

Figure 8. Project-Generated Traffic (Saturday Midday Peak Hour).

Intersections - Table 17 summarizes the signalized intersection impact results for the weekday period (4-6 PM) and the weekend period (12-2 PM). The proposed project will not change the Level of Service at any of the studied intersections, and except for three intersections, all intersections are expected to operate at acceptable levels of service C or better. The intersection of Sheldon St. and Roscoe Blvd. will provide level of service D. The intersection of Sheldon St. and Laurel Canyon Blvd. will provide level of service F primarily caused by high northbound through traffic and high eastbound through traffic. The proposed project will not significantly affect these two intersections. The intersection of Arleta Ave. and Sheldon St. will operate at level of service E primarily due to high numbers of westbound vehicles on Sheldon St. turning right onto northbound Arleta Avenue. The addition of traffic from the proposed project will significantly affect the Arleta/Sheldon intersection during the weekday PM peak period.

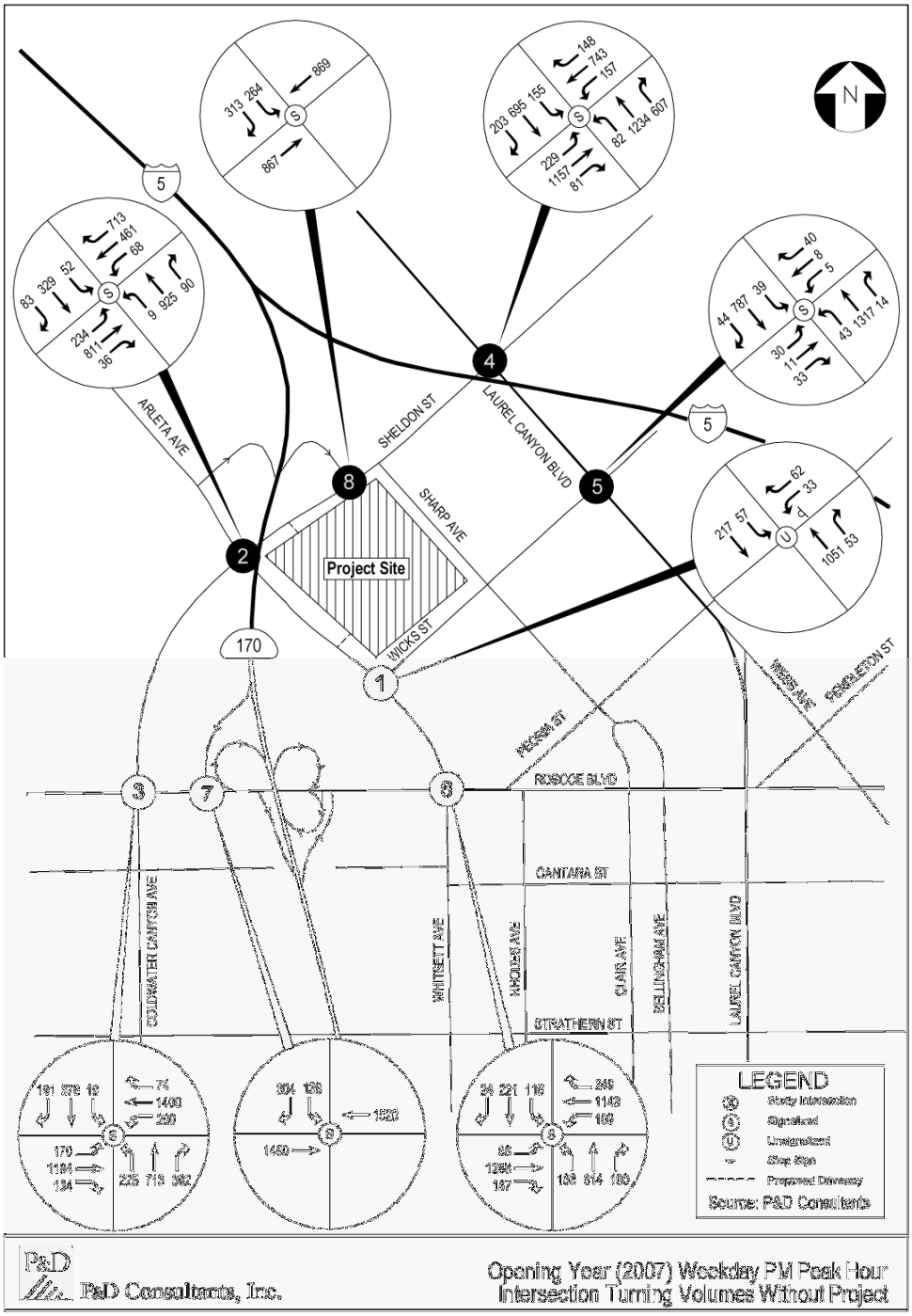

Figure 9. Opening Year (2007) Weeday PM Peak Hour Intersection Turning Volumes Without Project.

All intersections will operate at acceptable levels of service C or better during Saturday midday peak hour except the intersection of Roscoe Blvd and SR-170 SB off-ramp, which will operate at level of service D primarily due to high traffic volume on eastbound and westbound through approaches. The proposed project will not significantly impact any studied

intersection during Saturday midday peak period.

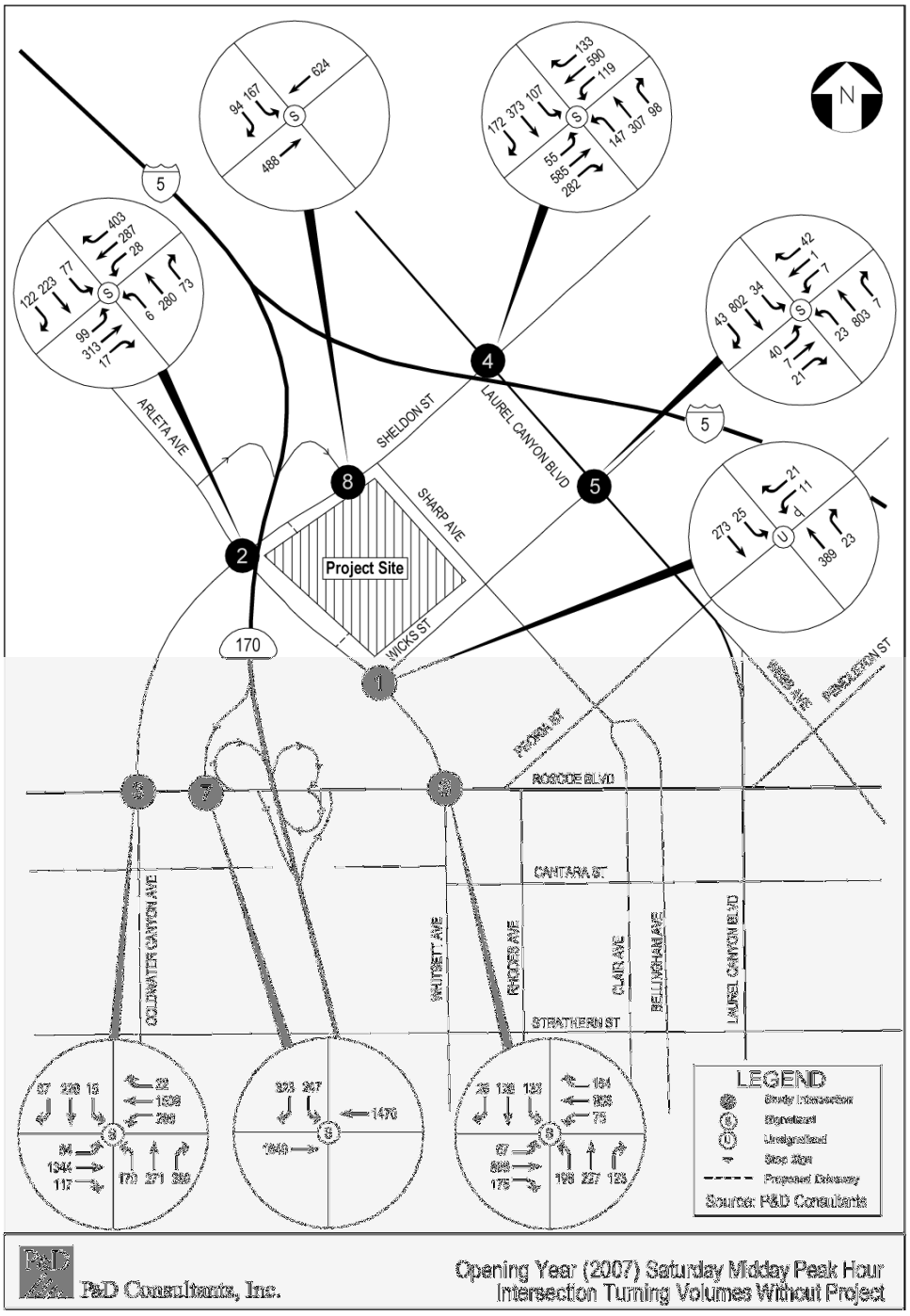

Figure 10. Opening Year (2007) Saturday Midday Peak Hour Intersection Turning Volumes Without Project.

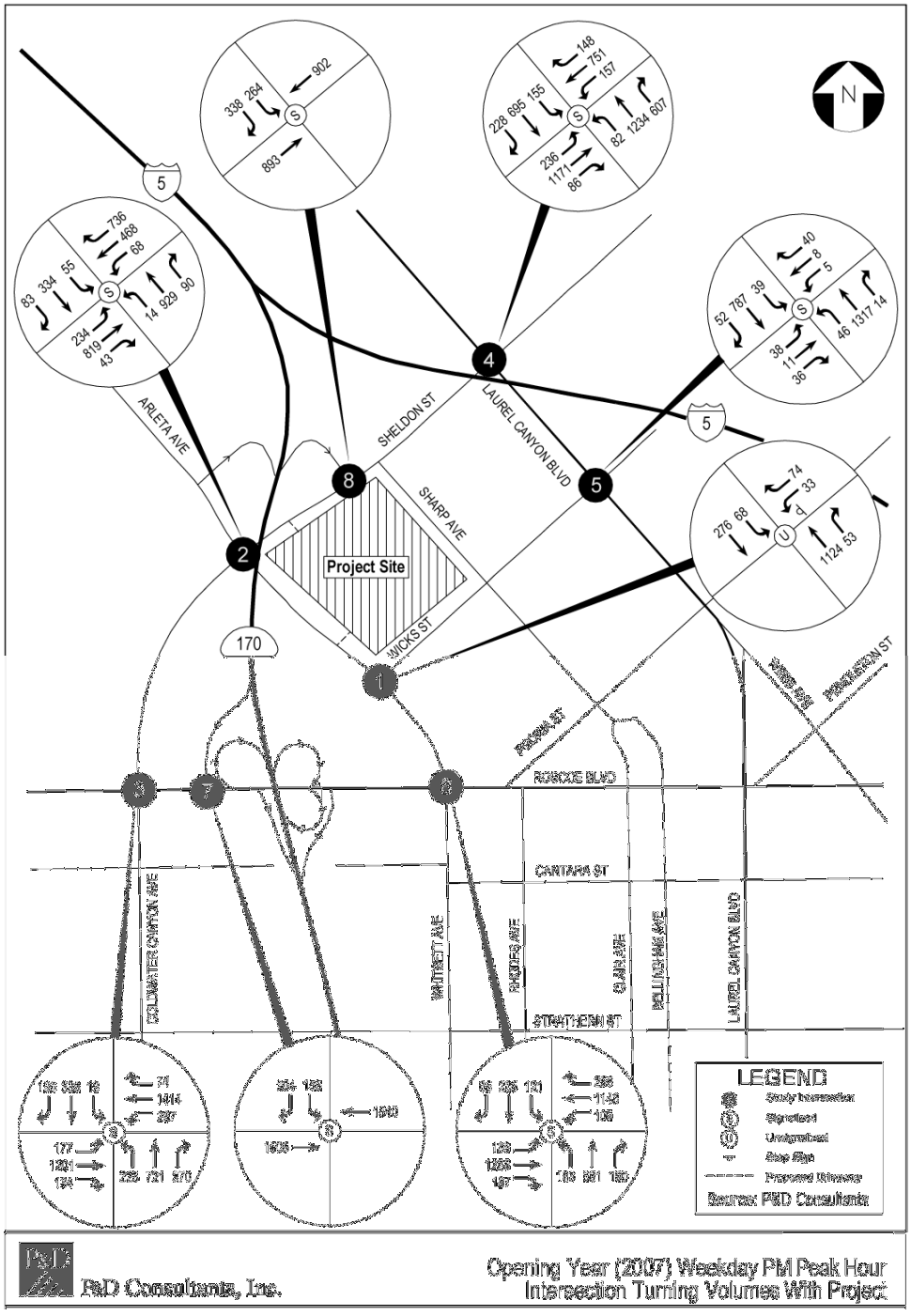

Figure 11. Opening Year (2007) Weekday PM Peak Hour Intersection Turning Volumes With Project.

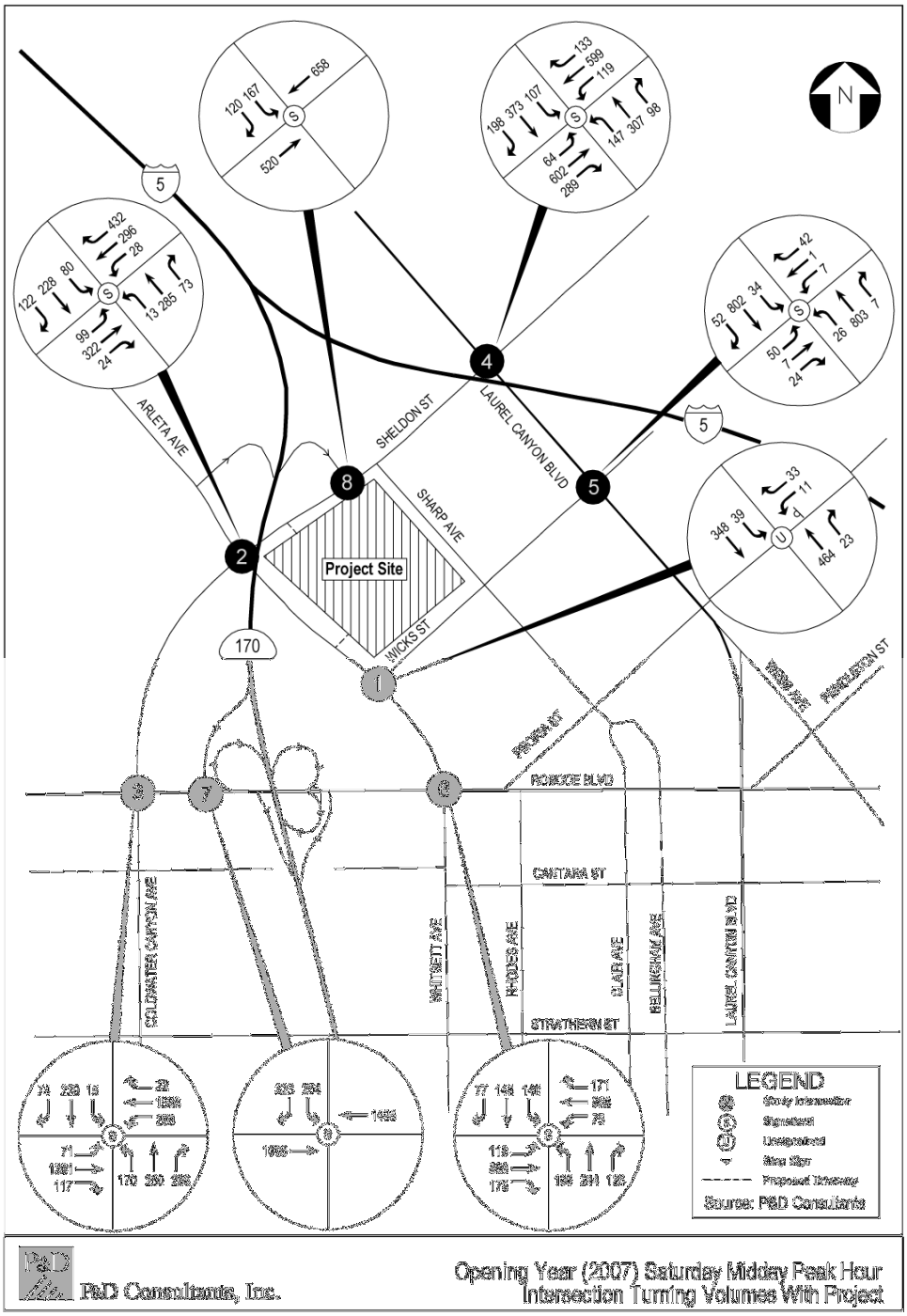

Figure 12. Opening Year (2007) Saturday Midday Peak Hour Intersection Turning Volumes With Project.

Table 17. Intersection Impact Summary for Intersections.

Index	Intersection	2007 Without Project		2007 With Project		Change in V/C	Change in LOS (Yes or No)	Significant Impact (Yes or No)
		V/C	LOS	V/C	LOS			
Weekday PM Peak Period (4-6 PM)								
1	Arleta Ave. & Wicks St	0.469	A	0.509	A	0.040	NO	NO
2	Arleta Ave. & Sheldon St.	0.976	E	0.994	E	0.018	NO	**YES**
3	Sheldon St. & Roscoe Blvd	0.881	D	0.896	D	0.015	NO	NO
4	Sheldon St. & Laurel Canyon Blvd	1.034	F	1.041	F	0.007	NO	NO
5	Wicks St. & Laurel Canyon Blvd	0.523	A	0.528	A	0.005	NO	NO
6	Arleta Ave. & Roscoe Blvd	0.779	C	0.788	C	0.009	NO	NO
7	Roscoe Blvd & SR-170 SB off-ramp	0.774	C	0.781	C	0.007	NO	NO
8	Sheldon St. & SR-170 NB off-ramp	0.544	A	0.574	A	0.030	NO	NO
Weekend Mid-day Peak Period (12-2 PM)								
1	Arleta Ave. & Wicks St	0.175	A	0.218	A	0.043	NO	NO
2	Arleta Ave. & Sheldon St.	0.481	A	0.504	A	0.023	NO	NO
3	Sheldon St. & Roscoe Blvd	0.765	C	0.780	C	0.015	NO	NO
4	Sheldon St. & Laurel Canyon Blvd	0.651	B	0.668	B	0.017	NO	NO
5	Wicks St. & Laurel Canyon Blvd	0.346	A	0.355	A	0.009	NO	NO
6	Arleta Ave. & Roscoe Blvd	0.541	A	0.580	A	0.039	NO	NO
7	Roscoe Blvd & SR-170 SB off-ramp	0.831	D	0.841	D	0.010	NO	NO
8	Sheldon St. & SR-170 NB off-ramp	0.348	A	0.361	A	0.013	NO	NO

Table 18 shows that the intersection of Arleta Ave. and Wicks St. is projected to operate at level of service D during 2007 traffic conditions with and without the proposed project. The level of service for this intersection will not be affected. With the project, the average delay will increase by 5.4 seconds during weekday evenings and 0.5 seconds during Saturday midday peaks. A traffic signal warrant analysis was conducted for the 4-6 PM on weekdays and 12-2 PM on weekends. Based on the Caltrans Peak Hour Warrant, the proposed project would not increase traffic levels enough to warrant a traffic signal. An analysis of the intersection using the signalized intersection methodology indicates that the impacts would not be significant (Table 17).

Table 18. Intersection Impact Summary for Unsignalized Arleta Ave. & Wicks St.

Index	Period	2007 Without Project		2007 With Project		Increase (Sec.)	Change in LOS (Yes or No)	Significant Impact [3] (Yes or No)
		Sec/ Veh[1]	LOS[2]	Sec/ Veh	LOS			
1	Weekday PM	25.8	D	31.2	D	5.4	No	No
1	Saturday	11.1	B	11.6	B	0.5	No	No

[1]Sec/Veh – Average delay in seconds per vehicle. [2]LOS – Level of Service. [3]Based on significance criteria for signalized intersections (see Table 17).

Local Residential Street - A local residential street is deemed to have been significantly impacted if the project-related increase is 10 percent or more of the final average daily traffic. The average daily traffic on Wicks St. is more than 2,000 but less than 3,000. An additional 188 project-related trips would occur on Saturday and 90 trips on weekdays. These increases in average daily traffic are less than 10 percent, so the proposed project is not expected to have significant adverse impacts on Wicks St.

Parking Analysis - A review of the Los Angeles Municipal Code, ITE Parking Generation and other professional publications indicates no documented parking requirements specified for sports fields. As discussed previously, 300 trips would occur during weekday PM peak hour and 340 trips would occur during the Saturday midday peak hour. Assuming a conservative vehicle occupancy rate of 1.5 persons per car and a parking turnover rate of 1 hour, 227 parking spaces are needed. About 350 parking spaces are proposed, so parking spaces are expected to be sufficient for visitors.

Project Site Access Analysis - Primary vehicular entrance would be provided via Arleta Ave., and secondary vehicular entrance would be provided on Sheldon St. Queuing analyses for left-turn inbound vehicles and left-turn outbound vehicles were done using the traffic volumes assigned to the driveways. Those analyses indicate that queues would not occur at the proposed park driveways.

Regional Congestion Management - The Los Angeles County Metropolitan Transportation Authority has implemented a Congestion Management Program following California Government Code Section 65088 *et seq*. (Proposition 111 passed in 1990). The 2002 CMP

Transportation Impact Analysis Guidelines for Los Angeles County require analysis of the traffic impact of regionally significant projects. A CMP traffic impact analysis is conducted at CMP arterial monitoring intersections, including freeway on- or off- ramps, where the proposed project will add 50 or more trips during peak hours. The SR-170 northbound off-ramp at Sheldon St. and SR-170 southbound off-ramp at Roscoe Blvd. meet intersection threshold, therefore they were included in the foregoing traffic study. A CMP traffic impact analysis is conducted also at CMP mainline freeway-monitoring locations where the project will add 150 or more trips in either direction during peak hours. For the proposed project, no freeway segments meet the CMP thresholds during either weekday PM peak hour or Saturday midday peak hour.

Mitigation Measures

With the application of the following mitigation measures, the proposed project will not have a significant impact on traffic and transportation.

T1. Impacts to the intersection of Arleta Ave. and Sheldon St. will be mitigated to a less-than-significant level by design and construction of the Golden State Freeway Corridor ATSAC/ATCS System.

T2. Sheldon St. and Arleta Ave. shall be widened (additional right-of-way dedicated) and improved as needed for site access to the satisfaction of LADOT. Widening and improvement will not be required along the entire frontage due to the geotechnical constraints of the site.

T3. Sheldon St. shall be widened, improved and restriped to the satisfaction of LADOT to provide median channelization on Sheldon St. for two-way left turn lanes and/or left turn pockets for full service access to the project site.

T4. Arleta Ave. shall be widened, improved and restriped to the satisfaction of LADOT to provide full service access to the project site. Project access shall be directly opposite the northern-most of the existing driveways to the DWP Anthony Office Building and shall meet the standards required for signalized driveways to the satisfaction of LADOT.

Mitigation Measures T5-T13 were requested by the Los Angeles Unified School District for the Major League Baseball Academy previously proposed for the Sheldon-Arleta site. We anticipate that the school district will request the same measures for the present project.

T5. The project manager or designee shall notifiy the LAUSD Transportation Branch (323-227-4400) of the expected start and ending dates for various portions of the project that may affect traffic through the area.

T6. Safe and convenient pedestrian routes to John Francis Polytechnic High School shall be maintained.

T7. Ongoing communication shall be maintained with the administrator of John Francis

Polytechnic High School, providing sufficient notice to forewarn staff, children and parents when existing pedestrian and vehicular routes to school will be impacted.

T8. Appropriate traffic control (signs and signals) shall be employed as needed to ensure pedestrian and vehicular safety.

T9. Haul routes shall not include streets adjacent to John Francis Polytechnic High School when school is in session.

T10. Streets adjacent to John Francis Polytechnic High School shall not be used for staging or parking of construction vehicles, including vehicles used to transport construction personnel.

T11. Barriers shall be erected as needed to minimize unauthorized entry onto the construction site.

T12. Security patrols shall be provided as needed to minimize unauthorized entry onto the construction site.

T13. Construction equipment shall be secured when not in use to minimize attraction to children.

4.16 Utilities and Service Systems
Less than Significant Impact.

Wastewater Collection and Treatment. This site is in the East Valley Tributary Area of the City's Hyperion Treatment Plant and an 8-inch local sewer is available in Sharp Avenue. The project will require minor sewer extensions to serve public restrooms. This impact is expected to be less than significant because the project is consistent with the City's General Plan and is not in an area where sewer capacity is constrained. Therefore the project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Wastewater will be collected and treated in accordance with permits from the Regional Water Quality Control Board. Therefore, the project will not exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Storm Water. There is an existing 36 to 42-inch RCP storm drain in Wicks Street (D-31046). Minor new lines and/or catch basins may be needed to improve drainage of the property, depending on final grading plan. However, the project will not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Municipal Water Supply. The project will increase incrementally the need for water for drinking, irrigation and toilets. This impact is expected to be less than significant because the project is

consistent with the City's General Plan and is in an area served by water lines.

Solid Waste. The proposed project will generate solid waste similar to existing facilities in kind and volume and will increase incrementally the need for solid waste collection and recycling/disposal. City recreational facilities currently comply with existing laws, regulations and standards related to solid waste. The city's solid waste management capacity is sufficient to support development consistent with the City's General Plan. This project's impact is expected to be less than significant because the project is consistent with the City's General Plan.

4.17 Mandatory Findings of Significance

Less Than Significant After Mitigation. On the basis of the foregoing, we conclude that:

a. **Direct Impacts.** The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

b. **Cumulative Impacts.** The project will not have impacts that are individually limited, but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

c. **Effects on People.** The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

5.0 PREPARATION AND COORDINATION/CONSULTATION

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Department of Recreation & Parks

6.0 DETERMINATION - RECOMMENDED ENVIRONMENTAL DOCUMENTATION

A. Summary

Development of recreational facilities on a city-owned 45-acre site formerly used as a municipal landfill. Planned facilities include: soccer fields; baseball fields (which may be configured and used for softball or hardball); basketball courts; concession space; service facility; restrooms; jogging path; bike path; picnic areas including group picnic areas; and landscaped buffer areas. The park may be built in phases depending on funding.

B. Recommended Environmental Documentation

On the basis of this initial evaluation, I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described herein have been added to the project. A **Mitigated Negative Declaration** should be adopted.

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Jim Doty
Environmental Supervisor II

Approved By: GARY LEE MOORE, PE
City Engineer

By:
Ara J. Kasparian, Ph.D., Manager
Environmental Management Group

JD: Sheldon_Arleta_MND (rev 5/2/2004 1:12:00 PM)

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Appendices to

Initial Study and Mitigated Negative Declaration

for

Sheldon-Arleta Park

W.O. E1700500



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April 26, 2004

Appendices

A. Traffic Impact Study

B. Air Quality Impact Analysis

C. Noise Report

Appendix A

Traffic Impact Study

Sheldon-Arleta Sports Field Park
Los Angeles, California

TRAFFIC IMPACT STUDY

Mitigated Negative Declaration
4/12/2004

Prepared for:

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Department of Public Works
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SHELDON-ARLETA SPORTS FIELD PARK
TRAFFIC IMPACT STUDY

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1.0 INTRODUCTION

This report summarizes the assumptions, methodologies, findings, and recommendations of the traffic impact study conducted for the proposed Sheldon-Arleta Sports Field Park. The traffic study addresses existing traffic conditions and potential traffic impacts on the surrounding street system resulting from the proposed project.

This traffic study has been prepared in accordance with City of Los Angeles Department of Transportation (LADOT) policies and procedures.

1.1 PROJECT DESCRIPTION

Project Location: The project site is located in the northeastern San Fernando Valley, near the junction of the Hollywood Freeway (SR 170) and the Santa Ana Freeway (Route 5). The site is bounded by Sheldon Street to the north, Sharp Avenue to the east, Wicks Street to the south, and Arleta Avenue to the west. Refer to Figure 1.1-1 for the regional Project Location Map.

Project Site Plan: The proposed project includes the following project elements: five regulation soccer fields, two youth soccer fields, two baseball fields, two basketball courts, children's active play area, jogging path, picnic areas including group picnic areas, passive recreational area including a passive buffer zone, and 350 off-street parking spaces. The proposed project site is located on a vacant lot approximately 45 acres in size. Refer to Figure 1.1-2 for the site plan.

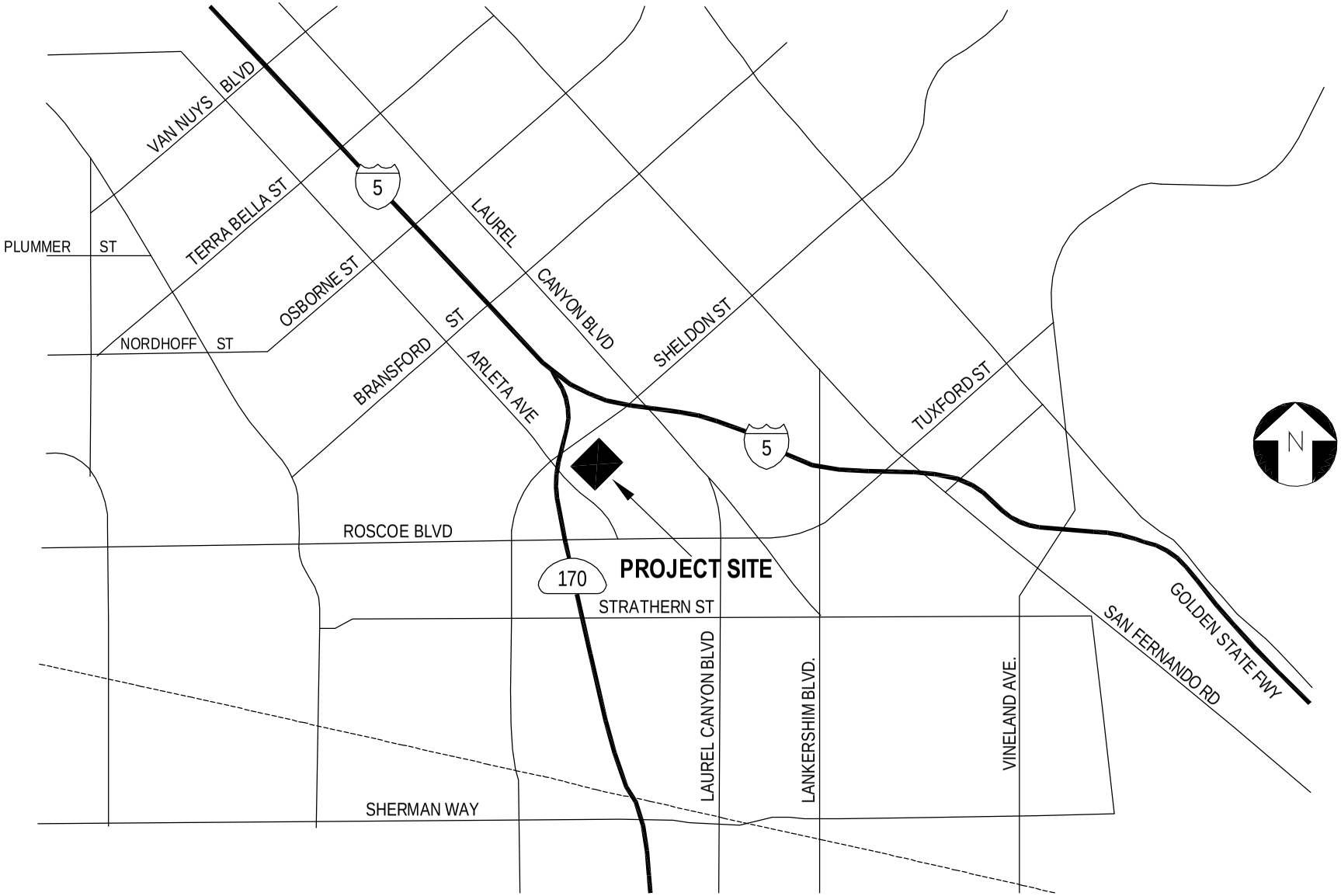
A security fence (locked at night) encompasses the boundaries of the entire proposed project site. Pedestrian entry points are planned for each of the four corners of the project site. The primary vehicular entrance/exit is located along Arleta Avenue just north of the Arleta Avenue/Wicks Street intersection. This entrance would directly align with the entrance/exit to the existing Anthony Office Building. The secondary ingress/egress is proposed along Sheldon Street just east of the Arleta Avenue/Sheldon Street intersection.

Surrounding Land Uses: The area north of Sheldon Street is the Department of Water and Power's Tujunga Spreading Ground. The area east of Sharp Avenue is developed with single family homes. Francis Polytechnic High School is along the south side of Wicks Street. The High School contains athletic fields and a student parking lot adjacent to the street. The area west of Arleta Street contains the Department of Water and Anthony Office Building.

1.2 DEFINITION OF STUDY AREA

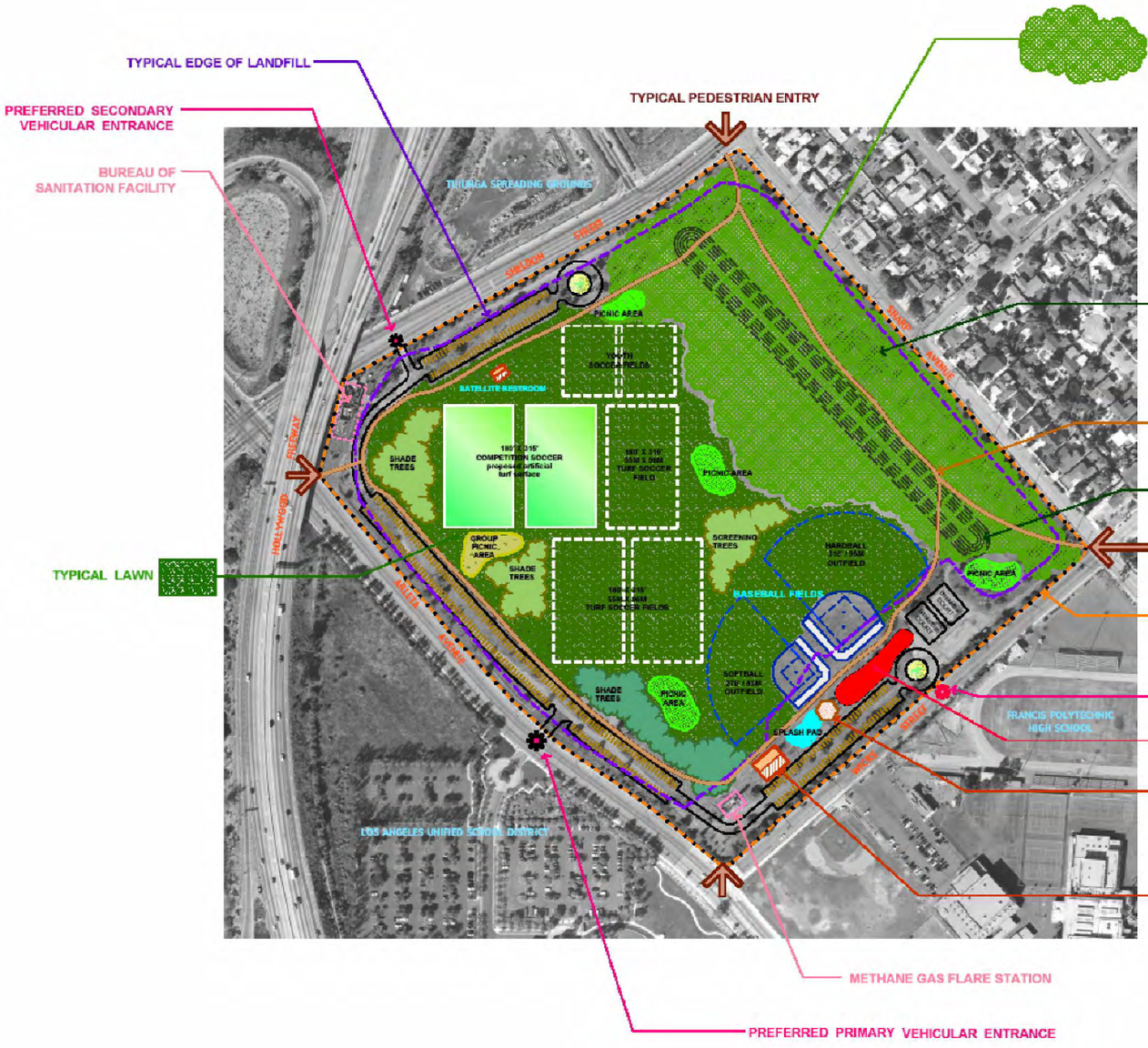
Figure 1.2-1 shows the study area for the traffic impact analysis, including intersections evaluated in this analysis, which were established in consultation with staff of the Los Angeles Department of Transportation (LADOT). The selection of intersections included in the analysis was based on traffic volume thresholds specified in the Traffic study Policies and Procedures[1].

[1] Los Angeles Department of Transportation (LADOT) Traffic Study Policies and Procedures, revised March 2002.



P&D Consultants, Inc.

Figure 1.1-1
Project Location Map



DESIGN PROGRAM

PARKING / CIRCULATION:
- 60 spaces per competition field
- Eight ft. wide decomposed granite path - security access, jogging

ACTIVE PARK FACILITIES:
- Five (5) regulation Soccer fields
- Two (2) Youth Soccer fields
- Two (2) Baseball field
  Softball - 270' outfield
  Hardball - 310' outfield
- Two (2) Basketball courts
- Children's active Play Area
- Splash Pad

PASSIVE PARK FACILITIES:
- Building - restroom / concession / service
- Satellite Restroom
- Group & individual picnic areas
- Shade trees and screening berm
- Parking
- Security Fencing
- Security Lighting

IF you have comments or questions, please contact the office of Councilmember Tony Cardenas, (213) 473-7006

PROJECT TEAM

Department of Recreation and Parks
Bureau of Engineering
Department of Water and Power
Environmental Affairs Department
Bureau of Sanitation

BROWNFIELDS TO GREENFIELDS

0 100 200 400

SHELDON-ARLETA SPORTSFIELD PROPOSED CONSENSUS PLAN

THIS CONCEPT IS FOR PLANNING PURPOSES ONLY AND DOES NOT REPRESENT A DEVELOPMENT PROPOSAL

SCALE: 1" = 100'

CITY OF LOS ANGELES
DEPARTMENT OF REC. & PARKS
200 N. MAIN STREET, RM. 1250
LOS ANGELES, CA 90012

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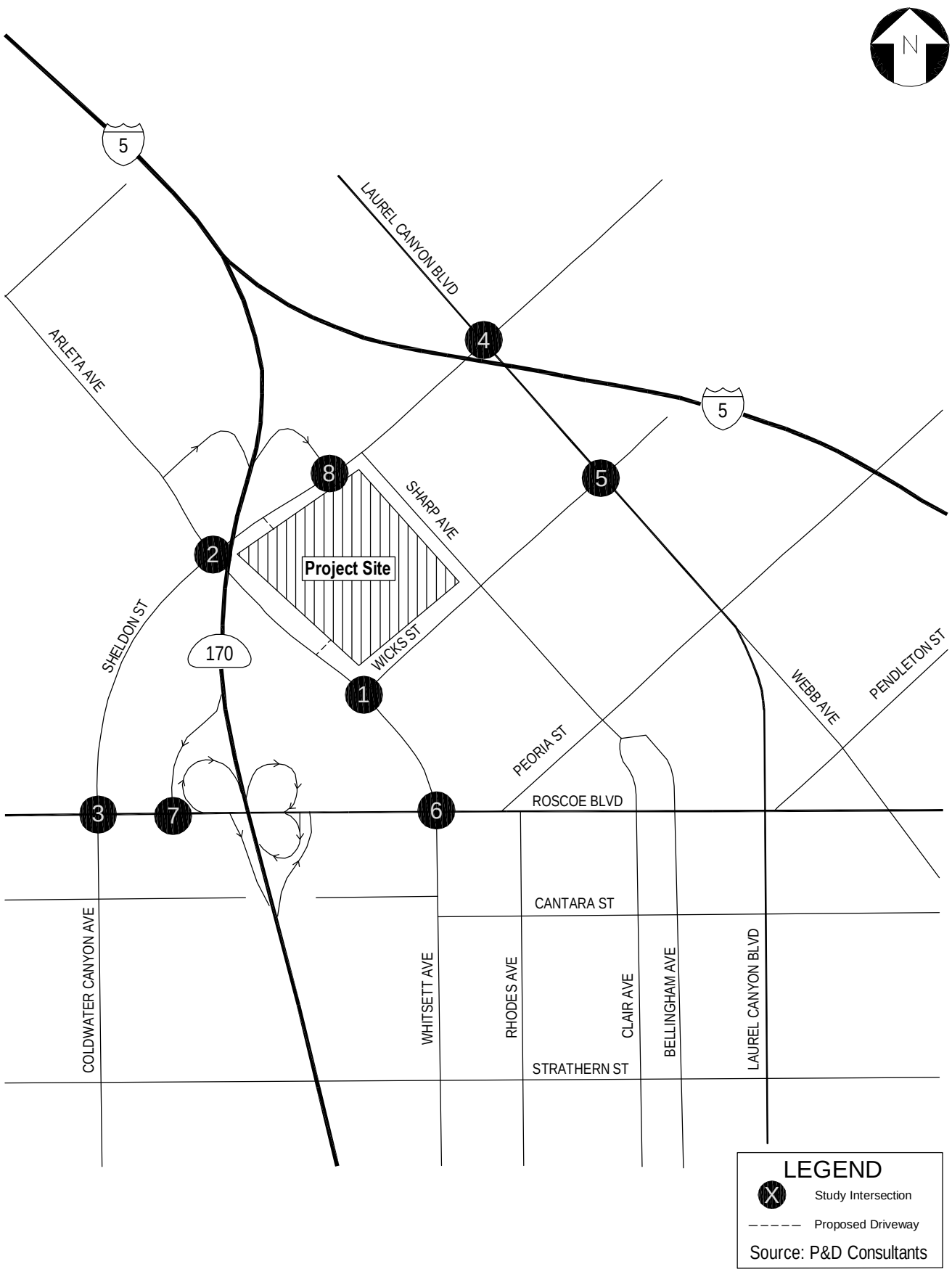
Figure 1.1-2
Project Site Plan



P&D Consultants, Inc.

Figure 1.2-1
Study Intersections

A preliminary analysis was conducted to determined project-generated trips at intersections. Based on the preliminary analysis and consultation with LADOT, the following study intersections were selected for further evaluation:

1. Arleta Ave. & Wicks St.
2. Arleta Ave. & Sheldon St.
3. Sheldon St. & Roscoe Blvd.
4. Sheldon St. & Laurel Canyon Blvd.
5. Wicks St. & Laurel Canyon Blvd.
6. Arleta Ave. & Roscoe Blvd.
7. Roscoe Blvd & SR-170 SB off-ramp
8. Sheldon St. & SR-170 NB off-ramp

Since some of the project related traffic would access the project site by local residential streets, neighborhood intrusion impacts were analyzed to see if the proposed project will have a significant adverse impact on residential streets. The local residential street segment identified is shown below:

1. Wicks St. between Sharp Ave. and Laurel Canyon Blvd.

1.3 PURPOSE AND SCOPE OF TRAFFIC STUDY

This traffic study examines existing traffic conditions, analyzes future conditions, and identifies traffic impacts and potential mitigation measures for improving traffic flow and circulation.

This study was prepared in accordance with requirements in the City of Los Angeles Traffic Study Guidelines. The following scenarios were analyzed to determine the impacts (if any) on the Level of Service at the key intersections within the project area.

- Existing conditions (2004).
- Project opening year (2007) without project. This includes existing traffic + ambient growth + related project traffic.
- Project opening year (2007) with project. This includes existing traffic + ambient growth + related project traffic + project traffic.

Construction of the proposed project is scheduled to begin in August or September of 2005 and is expected to be completed in March 2007. Therefore, for purposes of this traffic analysis, the project opening year is 2007.

1.4 PREVIOUS STUDIES

As part of this study, the summary of findings, recommendations, and mitigation measures of recently completed traffic studies within the immediate influence area of the proposed project were reviewed. The *East Valley Area New High School #1A* (2001) study prepared by Katz, Okitsu & Associates evaluated impacts of a proposed High School located just west of the proposed Sheldon-Arleta Sports field along Arleta Avenue. The High School study found the project had significant traffic impacts at the Arleta Avenue at Roscoe Boulevard intersection during the AM peak hour. It should be noted; the High School study only evaluated the AM peak hour and not the PM peak hour. This was because the PM peak hour for the High School would occur prior to 4 PM and thus a PM analysis was deemed not necessary.

2.0 METHODOLOGY

This section describes the procedures and methodologies used to forecast project traffic and to analyze project impacts on the circulation system. Topics discussed include traffic forecasting assumptions and procedures, trip generation, trip distribution, traffic assignment, and level of service (LOS) computation methodologies.

2.1 ASSUMPTIONS

Traffic Growth Rate (2003 – 2007)

An annual ambient growth rate of 2.0 percent per year was applied to the 2004 existing traffic volumes[2]. This annual growth rate was applied to both mid-block daily traffic volumes and intersection peak hour turning movements to obtain 2007 background (without project) traffic volumes. The 2.0 percent ambient growth rate per year was based on the historical traffic increases within the study area due to regional growth. Future increases in background traffic are expected to increase at this same rate. In addition, the 2.0 percent growth rate was established based on discussions with LADOT staff members.

Opening Year

For purposes of the traffic analysis, the project is expected to be completed and fully operational in March 2007.

2.2 TRAFFIC COUNTS

P&D Consultants conducted the following traffic counts as part of this study through a subcontract with Southland Car Counters. Detailed traffic count sheets are provided in Appendix A. The results of the traffic counts are presented in Section 3.0, Existing Conditions.

<u>24-hour machine tube counts (March 2004)</u>

[2] Traffic counts were taken in March 2004.

1. Wicks St.
    - Just west of intersection of Wicks St. & Laurel Canyon Blvd

Weekday peak period (4-6 P.M) and Saturday Mid-day peak period (12-2 P.M.) intersection turning movement counts (March 2004)

1. Arleta Ave. & Wicks St.
2. Arleta Ave. & Sheldon St.
3. Sheldon St. & Roscoe Blvd
4. Sheldon St. & Laurel Canyon Blvd
5. Wicks St. & Laurel Canyon Blvd
6. Arleta Ave. & Roscoe Blvd
7. Roscoe Blvd & SR-170 SB off-ramp
8. Sheldon St. & SR-170 NB off-ramp

2.3 FUTURE TRAFFIC

Future traffic is composed of project-generated traffic, annual ambient growth traffic and cumulative project traffic. Project generated traffic is discussed in Section 2.4. Annual growth traffic was determined by applying an annual growth rate of 2% to both existing mid-block daily traffic volumes and existing intersection peak hour turning movements. Cumulative project traffic is generated from adjacent projects which are expected to be build out in the future condition. The cumulative project list was obtained from LADOT.

2.4 PROJECT TRIP GENERATION

The number of additional trips estimated to be generated by the proposed project was determined from the following two sources: the *ITE Trip Generation*[3] and trip generation rates documented in the *Initial Study for the Hansen Dam Soccer Complex Project*. Table 2.4-1 lists the corresponding trip generation rates for the different land uses for both the PM weekday period and midday Saturday period. It should be noted that there is no documented trip generation rate for the Basketball Court land use in ITE. For purpose of this analysis, the trip generation rates for the Tennis Court were used for basketball courts. In addition, since the land use of picnic area and children's play area are usually incidental to the soccer and baseball fields, trips generated from these land uses are already included.

[3] ITE, *Trip Generation*, 7th Edition, 2003.

Table 2.4-1
PROJECT TRIP GENERATION RATE

Land Use	Day	Time Period	Trip Generation Rate (per field or court)		
			Inbound	Outbound	Total
Soccer Field[1]	Weekday	P.M. Peak Hour	18	18	36
		Daily	70	70	140
	Saturday	Midday. Peak Hour	18	18	36
		Daily	140	140	280
Baseball Field[1]	Weekday	P.M. Peak Hour	17.5	2.5	20
		Daily	40	40	80
	Saturday	Midday. Peak Hour	20	20	40
		Daily	120	120	240
Basketball Court[2]	Weekday	P.M. Peak Hour	2	2	4
		Daily	15.5	15.5	31
	Saturday	Midday. Peak Hour	2	2	4
		Daily	15.5	15.5	31

Source:
[1] – *Initial Study for the Hansen Dam Soccer Complex Project.*
[2] – ITE Trip Generation 7th Edition – Land Use 490 Tennis Court.

Table 2.4-2 shows project generated traffic based on the trip generation rates in Table 2.4-1. As shown in Table 2.4-2, the project is estimated to generate a total of approximately 1202 vehicle trips daily and 300 vehicle trips (total of both directions) during the P.M. peak hour on weekdays. On Saturdays, the project is expected to generate approximately 2502 trips daily and 340 trips during the midday peak hour.

Table 2.4-2
PROJECT TRIP GENERATION

Time Period/Day	Project Generated Traffic		
	Inbound	Outbound	Total
Weekday PM Peak Hour			
7 Soccer Fields	126	126	252
2 Baseball Fields	35	5	40
2 Basketball Courts	4	4	8
Total	165	135	300
Saturday Midday Peak Hour			
7 Soccer Fields	126	126	252
2 Baseball Fields	40	40	80
2 Basketball Courts	4	4	8
Total	170	170	340
Weekday Daily Traffic Volume			
7 Soccer Fields	490	490	980
2 Baseball Fields	80	80	160
2 Basketball Courts	31	31	62
Total	601	601	1202
Saturday Daily Traffic Volume			
7 Soccer Fields	980	980	1960
2 Baseball Fields	240	240	480
2 Basketball Courts	31	31	62
Total	1251	1251	2502

Source: P&D Consultants.

The majority of patrons to the proposed sports facility are not expected to participate in more than one sport event at the site. Therefore, for purpose of conservative analysis, no internal trip reductions were taken into account.

2.5 PROJECT TRIP DISTRIBUTION

Trip distribution is the process of identifying the general directions that traffic associated with a project would use to travel into and out of the study area. For this study, project trip distribution was determined under the direction of staff of the Los Angeles Department of Transportation (LADOT). Figure 2.5-1 shows trip distributions by roadway and Figure 2.5-2 shows trip distributions by intersection. As Figure 2.5-1 shows, the geographical distribution is as follows: 30% to the north, 11% to the east, 45% to the south, and 14% to the west. Areas south of the proposed project site receive the highest percentage of project traffic because of dense residential areas south of the site. As shown in Figure 2.5-2, approximately 60% of project traffic is expected to use the vehicular entrance from Arleta Avenue (the primary entrance) and approximately 40% is projected to use the Sheldon Street entrance (the secondary entrance).

2.6 PROJECT TRIP ASSIGNMENT

Traffic assignment is the determination of the specific routes or travel paths that project traffic will use. The major factors affecting route selection are the minimum time path and minimum distance path. Often, the minimum time and distance paths are the same. When the two paths are different, the minimum time path will usually take precedence, assuming all other factors are equal. Other considerations in route selection are aesthetic quality of alternative routes and route safety. Project generated trips were assigned to the roadway system in a logical manner based on the location of transfer stations and the minimum time and distance path to the site.

Refer to Figure 2.6-1 for the Project Generated Traffic Assignment (Weekday PM Peak Hour) and Figure 2.6-2 for the Project Generated Traffic Assignment (Saturday Midday Peak Hour).

2.7 LEVEL OF SERVICE METHODOLOGY

The level of service (LOS) concept was developed to evaluate the operating conditions of components of a transportation circulation system. The *Highway Capacity Manual* (HCM)[4] defines LOS as a qualitative measure which describes operational characteristics within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience. LOS is rated from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. Specific criteria are used to define LOS for different types of facilities as discussed below.

[4] Transportation Research Board, *Highway Capacity Manual*, 2000.

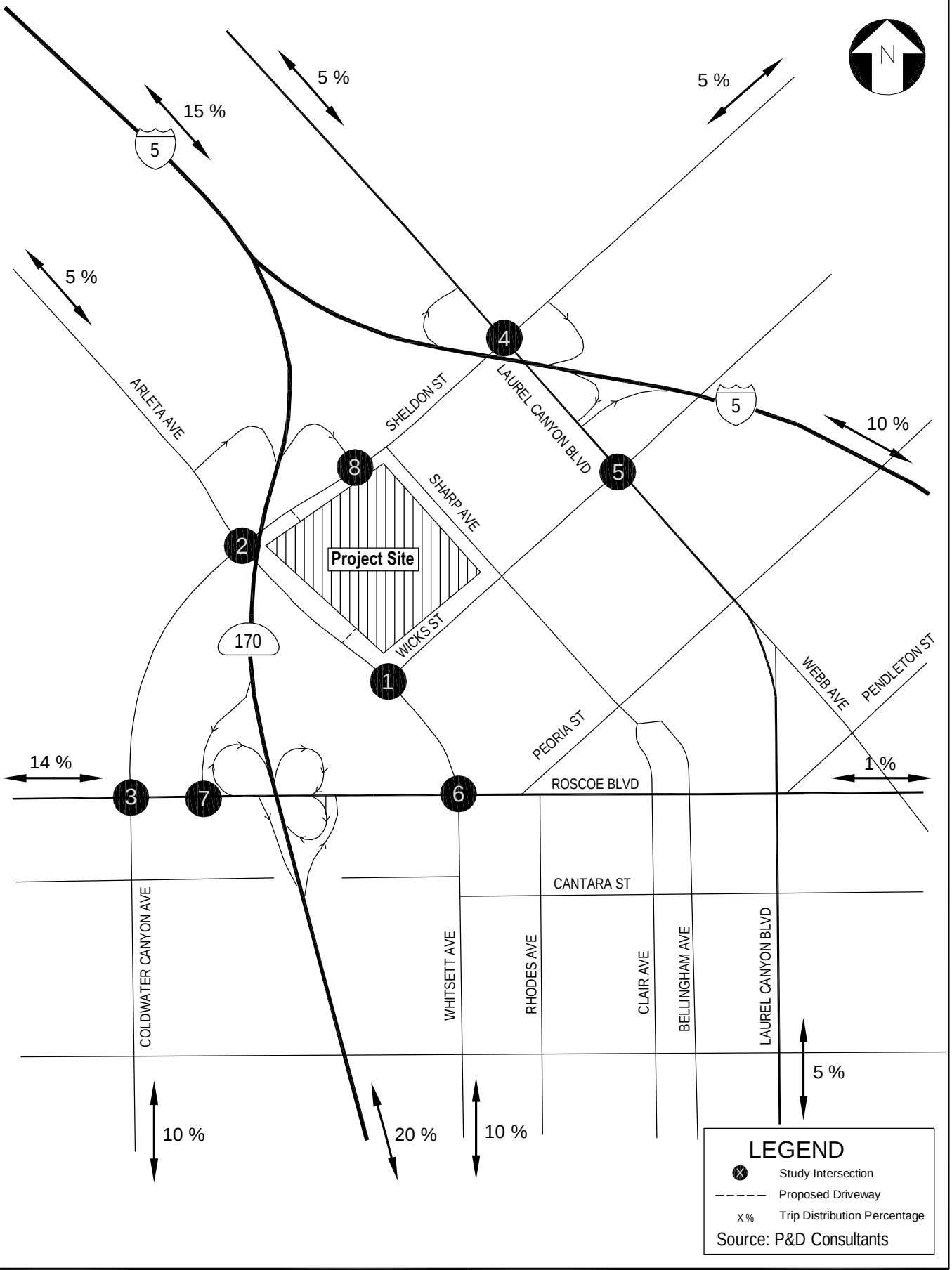


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Figure 2.5-1
Trip Distribution by Roadways

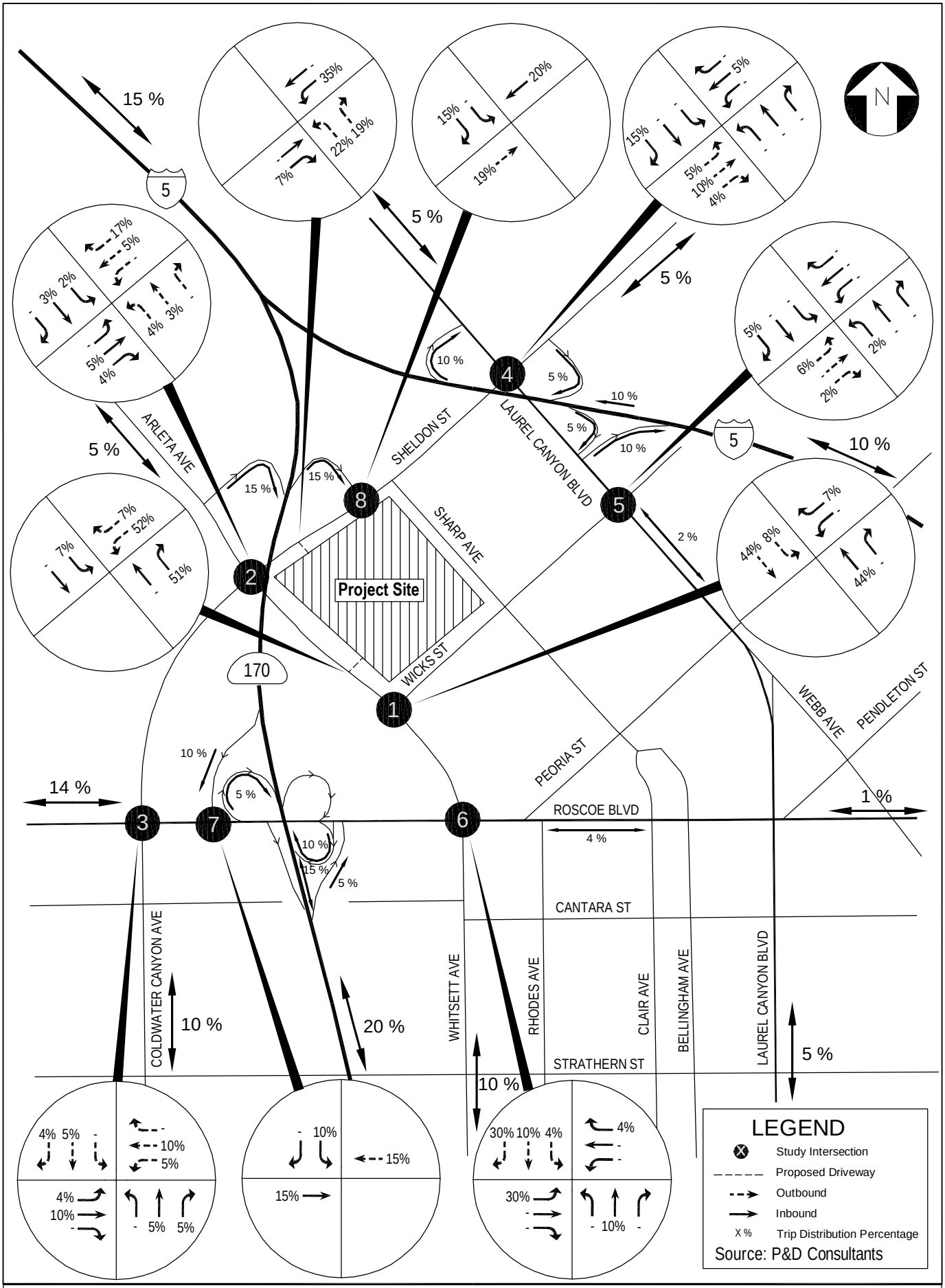

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Figure 2.5-2
Trip Distribution by Intersection

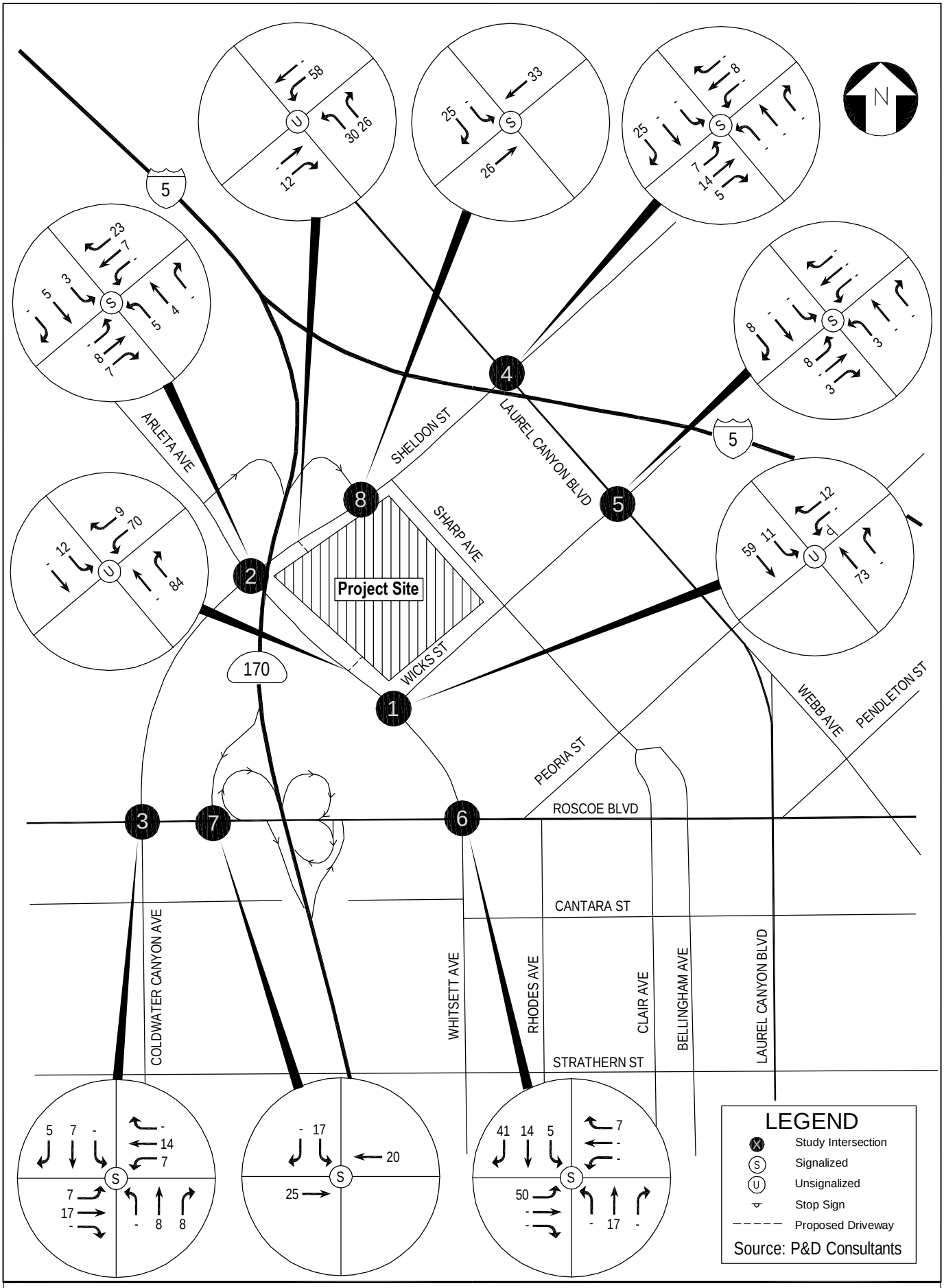

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Figure 2.6-1
Project-Generated Traffic (Weekday PM Peak Hour)

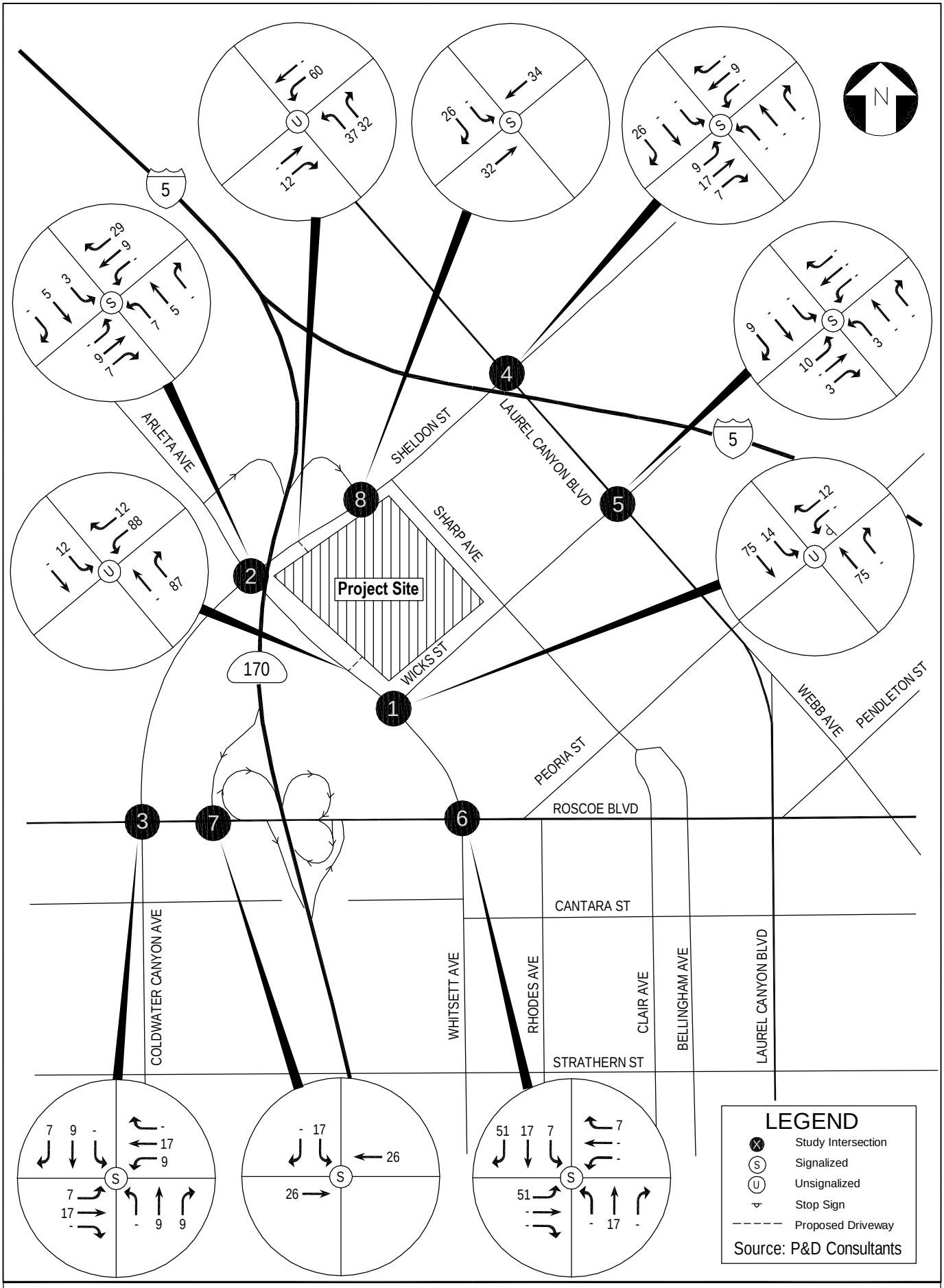

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Figure 2.6-2
Project-Generated Traffic (Saturday Midday Peak Hour)

Signalized Intersection LOS

The City of Los Angeles specifies that the Transportation Research Board Critical Movement Analysis (CMA), Circular 212 Planning Method, be used to analyze traffic operating conditions at study intersections. The CMA analysis method is for evaluating signalized intersections and involves the computation of volume-to-capacity (V/C) ratios for each critical movement. Capacity, or saturation flow rate, is defined as the maximum rate of flow that can pass through a given intersection approach under prevailing traffic and roadway conditions. The sum of all critical movements on a critical lane basis is used to determine the total intersection volume to capacity ratio (V/C) and corresponding Level-of-Service from the following table. For purposes of this analysis, LOS C or better is defined as acceptable service levels for signalized intersections.

Table 2.7-1
LEVEL OF SERVICE Definitions FOR SIGNALIZED INTERSECTIONS

LOS	Definitions	V/C Ratio
A	Excellent. No vehicle waits longer than one red light and no approach phase is fully used.	0.000 to 0.600
B	Very Good. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	0.601 to 0.700
C	Good. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	0.701 to 0.800
D	Fair. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	0.801 to 0.900
E	Poor. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	0.901 to 1.000
F	Failure. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	Above 1.00

Source: Transportation Research Board, Circular No. 212, *Interim Materials on Highway Capacity*, 1980.

The CMA analysis for this study used standard parameters including default saturation flow rates, defined as the maximum number of vehicles that can pass through a lane per hour of green time at a signalized intersection; and clearance interval defined as a percentage of the overall intersection capacity utilized by vehicles to clear the intersection during the amber or yellow signal. Default saturation flow rates of 1,500 vehicles per hour per lane (vphpl) were used in this analysis when a signal has 2 phases. For a signal with 3 phases, a saturation flow rate of 1425 vphpl was used. For a signal with 4 or more phases, 1375 vphpl was used.

Unsignalized Intersections

Analysis of stop-controlled intersections used the 2000 HCM methodology for unsignalized intersections.[5] The HCM established procedures for analyzing two-way and all-way stop controlled (TWSC and AWSC, respectively) intersections. The HCM methods calculate the

[5] Transportation Research Board, *Highway Capacity Manual*, Special Report 209, Chapter 17, "Unsignalized Intersections", 2000.

average total delay at intersections. Based on the average control delay, the HCM defines LOS for unsignalized intersections as shown in Table 2.7-2.

Table 2.7-2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LOS	Description	Average Control Delay (seconds/veh.)
A	Very low delay. Most vehicles do not stop at the intersection.	$\leq$ 10
B	More vehicles stop than with LOS A, causing higher delays.	> 10 and $\leq$ 15
C	The number of vehicles stopping becomes significant, though many still pass through the intersection without stopping.	> 15 and $\leq$ 25
D	The influence of congestion becomes more noticeable. Many vehicles stop and the proportion of vehicles not stopping declines.	> 25 and $\leq$ 35
E	Results in delay considered to be unacceptable.	> 35 and $\leq$ 50
F	Considered unacceptable to most drivers, often occurs with over saturation, when arriving traffic exceeds the capacity at the intersection.	> 50

Source: *Highway Capacity Manual*, 2000.

2.8 REGULATORY FRAMEWORK

The purpose of this section is to establish the impact thresholds that were used in this analysis. All threshold guidelines were consistent with those found in the LADOT *Traffic Study Policies and Procedures* (2002).

Signalized Intersections

A project in the City Los Angeles County is considered to have a significant adverse traffic impact at signalized intersections if the project-related increase in the volume-to-capacity (V/C) ratio equals or exceeds the threshold shown in Table 2.8-1.

Table 2.8-1
SIGNIFICANT IMPACT THRESHOLDS FOR INTERSECTIONS

Intersection		Project-Related Increase in V/C
LOS	Final V/C [(1)] Ratio	
C	> 0.700 to 0.800	equal to or greater than 0.040
D	> 0.800 to 0.900	equal to or greater than 0.020
E/F	> 0.900 or more	equal to or greater than 0.010

Source: LADOT, *Traffic Study Policies and Procedures*, 2002.
[(1)] The volume-to-capacity (V/C) ratio for an intersection is the summation of the V/C ratios for the critical movements within the intersection. The higher the V/C ratio the closer the intersection is operating to capacity. A road would be at capacity when the V/C ratio is 1.0.

As previously shown in Table 2.8-1, the Final V/C Ratio is defined as the future V/C ratio at an intersection considering impacts with the project, ambient growth, and related project growth but

without any proposed traffic mitigation. The Project-Related Increase in V/C is the change in V/C for the following two traffic scenarios:

- Future V/C ratio, *without* project: Ambient growth + related project traffic (without any proposed traffic mitigation).

- Future V/C ratio, *with* project: Ambient growth + related project traffic + project traffic (without any proposed traffic mitigation).

Consistent with guidelines from the LADOT, all V/C ratios were calculated to three (3) decimal places.

Unsignalized Intersection

According to L.A CEQA Thresholds Guide, if an unsignalized intersection is projected to operate at LOS C, D, E or F, re-analyze the intersection using the signalized intersection methodology to determine the significant of impacts.

Local Residential Street (Neighborhood Intrusion Impacts)

According to LADOT *Traffic Study Policies and Procedures*, a local residential street shall be deemed significantly impacted[6] based on an increase in the projected average daily traffic (ADT) volumes:

Table 2.8-2
Local Residential Street Significant Impact Thresholds

Projected Average Daily Traffic with Project (Final ADT*)	Project-Related Increase in ADT
0 to 999	16 percent or more of final ADT
1,000 or more	12 percent or more of final ADT
2,000 or more	10 percent or more of final ADT
3,000 or more	8 percent or more of final ADT

Source: LADOT Traffic Study Policies and Procedures.
* "Final ADT" is defined as projected future conditions including project, ambient, and related project growth but without project traffic mitigation.

3.0 EXISTING CONDITIONS

This section describes the existing land uses, circulation system, traffic volumes, and intersection operational characteristics in the vicinity of the project site. The traffic study area was determined by consultation with staff from the Los Angeles Department of Transportation (LADOT).

[6] Source: Traffic Infusion on Residential Environment (TIRE) Index developed by D.K. Goodrich and modified by LADOT for LOS Angeles City conditions.

3.1 EXISTING CIRCULATION NETWORK

Roadway

Sheldon Street/Coldwater Canyon Avenue is classified as a Secondary Highway (Refer to Appendix D for Street Designations and Standards). To the north of its intersection with Roscoe Blvd., the roadway is named Sheldon Street and to the south is named Coldwater Canyon Avenue. The roadway provides two lanes of travel in each direction and the speed limit is 35 miles per hour (mph). North of Roscoe Blvd, the travel lanes are separated by a painted centerline and on-street parking is prohibited. South of Roscoe Blvd there is a two-way left turn and on-street parking is permitted. The land uses along the roadway are primarily single family and multi-family residential.

Arleta Avenue/Whitsett Avenue is classified as Secondary Highway and extends along the west border of the project site as four-lane facility. To the north of its intersection with Roscoe Blvd the roadway is named Arleta Ave. and to the south is named Whitsett Ave. both segments have a two-way left turn and provide two lanes of travel in each direction. Parking is prohibited on Arleta Ave. adjacent to the project site but is allowed south of Roscoe Blvd. Left turn pockets are provided at signalized intersections. The speed limit is 35 mph and land uses are mostly residential with some commercial. Access to the project site is provided along Arleta Ave.

Laurel Canyon Blvd is classified as a Major Highway and is located a couple blocks east of the project site. The roadway provides two travel lanes in each direction, which are separated by a two-way left turn lane. There is a bike lane on both sides of Laurel Canyon Blvd and the speed limit is 35 mph. On-street parking is permitted on some segments and there are left turn pockets provided at nearly all intersections. The land uses along the roadway are mostly commercial and residential, including single-family dwelling and apartment complexes.

Roscoe Blvd. is classified as a Major Highway. In the vicinity of the project site, Roscoe Blvd has four-lanes with two in each direction and includes a two-way left turn lane. Near the interchange with the Hollywood Freeway (SR-170), the roadway provides three travel lanes in each direction and continues westward as a six-lane facility. The speed limit on Roscoe Blvd is 35 mph and on-street parking is allowed on select segments during the off-peak hours from 9:00 am to 4:00 pm. To the east of Arleta Ave. there is a bike lane on both sides of the street. Left turn pockets are provided at nearly all intersections. The land uses along Roscoe Blvd are mostly commercial and retail with some apartment complexes.

Wicks Street is classified as Collector Street and is located along the south border of the project site and passes the residential area to meet Laurel Canyon Blvd. On the other side of Wicks Street is the planned East Valley Area New High School #1A. The roadway provides one travel lane in each direction. On-street parking is prohibited to the west of Sharp Ave. and allowed to the east of Sharp Ave. The intersection of Wicks Street and Sharp Ave. is a four-way STOP unsignalized intersection.

Intersections

Figure 3.1-1 depicts the existing lane configurations and intersection controls at the study intersections.

3.2 EXISTING TRAFFIC VOLUMES

Figure 3.2-1 presents the existing 2004 weekday PM peak hour turning volumes at the study intersections. Figure 3.2-2 presents the existing 2004 Saturday midday peak hour turning volumes at the study intersections.

3.3 EXISTING LEVELS OF SERVICE

Level of Service (LOS) analyses were performed for the study intersections using the methodologies described earlier in Section 2.0. Computational worksheets for the LOS analyses are provided in Appendix B. The LOS analysis was based on traffic counts taken during the weekday PM peak hour and the Saturday midday period (12-2 PM).

Signalized Intersection LOS

Table 3.3-1 summarizes the existing volume-to-capacity (V/C) and corresponding LOS of the signalized intersections within the project limits during the weekday P.M. peak hour and the Saturday midday peak hour.

Table 3.3-1
SIGNALIZED INTERSECTION LEVELS OF SERVICE
Existing Conditions

Intersection		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
Index	**Location**	**V/C**	**LOS**	**V/C**	**LOS**
2	**Arleta Ave. & Sheldon St.**	**0.957**	**E**	0.463	A
3	**Sheldon St. & Roscoe Blvd**	**0.861**	**D**	0.739	C
4	**Sheldon St. & Laurel Canyon Blvd**	**0.959**	**E**	0.601	B
5	Wicks St. & Laurel Canyon Blvd	0.499	A	0.322	A
6	Arleta Ave. & Roscoe Blvd	0.754	C	0.508	A
7	Roscoe Blvd & SR-170 SB off-ramp	0.762	C	**0.811**	**D**
8	Sheldon St. & SR-170 NB off-ramp	0.526	A	0.335	A

Source: P&D Consultants
V/C – Intersection Volume/Capacity
LOS – Level of Service
Bold – Intersections in **bold** operates at an unacceptable level of service. Intersections operating at LOS C or better was considered acceptable.

As the Table 3.3-1 shows, under existing conditions, the intersections of Sheldon St. with Arleta Ave., Roscoe Blvd and Laurel Canyon Blvd operate at unacceptable levels of service (LOS D or worse) during weekday PM peak hour. During Saturday midday peak hour, all intersections operate at acceptable level of service except the intersection of Roscoe Blvd and SR-170 Southbound off-ramp which operates at an unacceptable level of service (LOS) D.

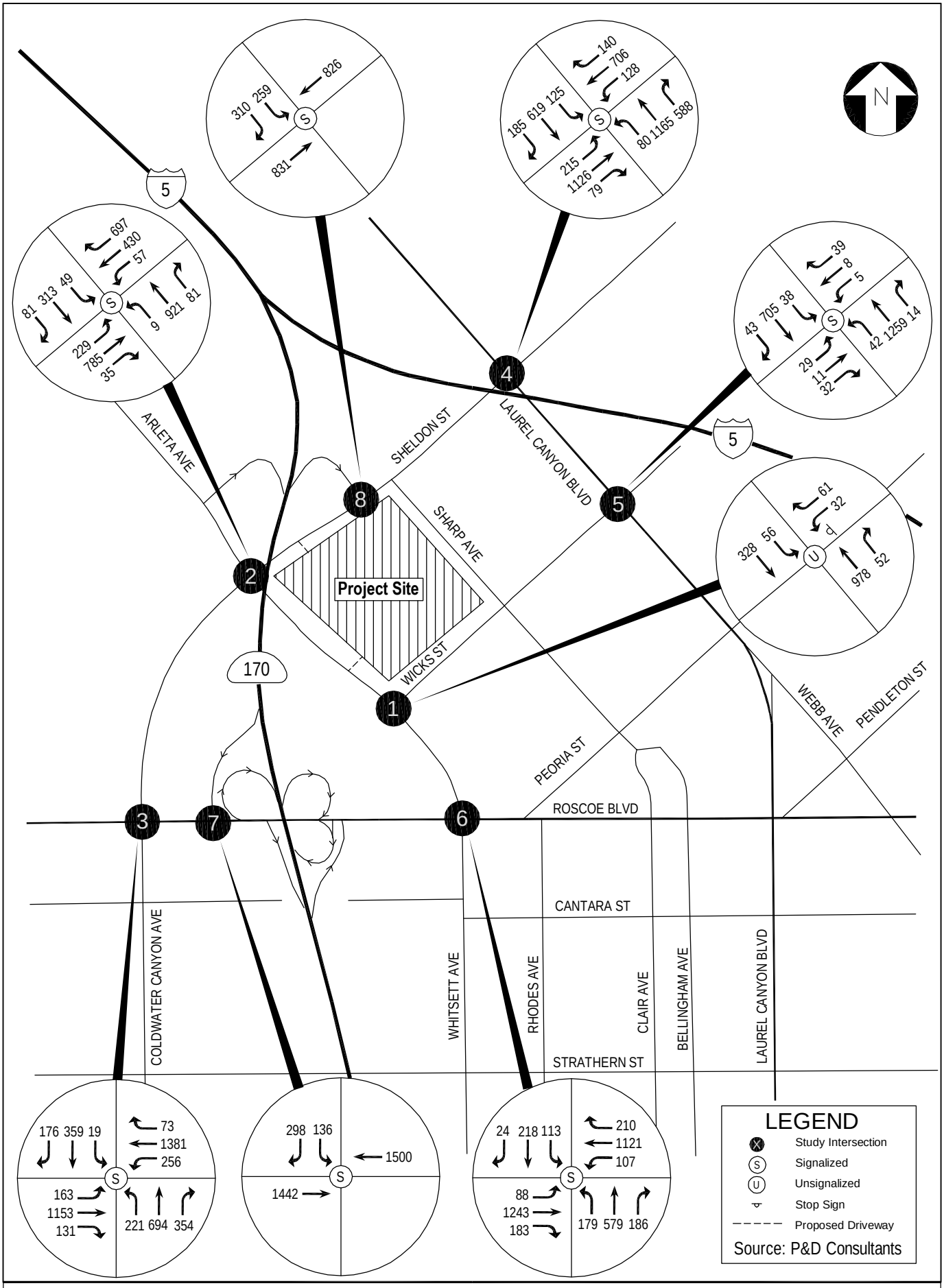

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Figure 3.2-1

Existing Weekday PM Peak Hour Intersection Turning Volumes

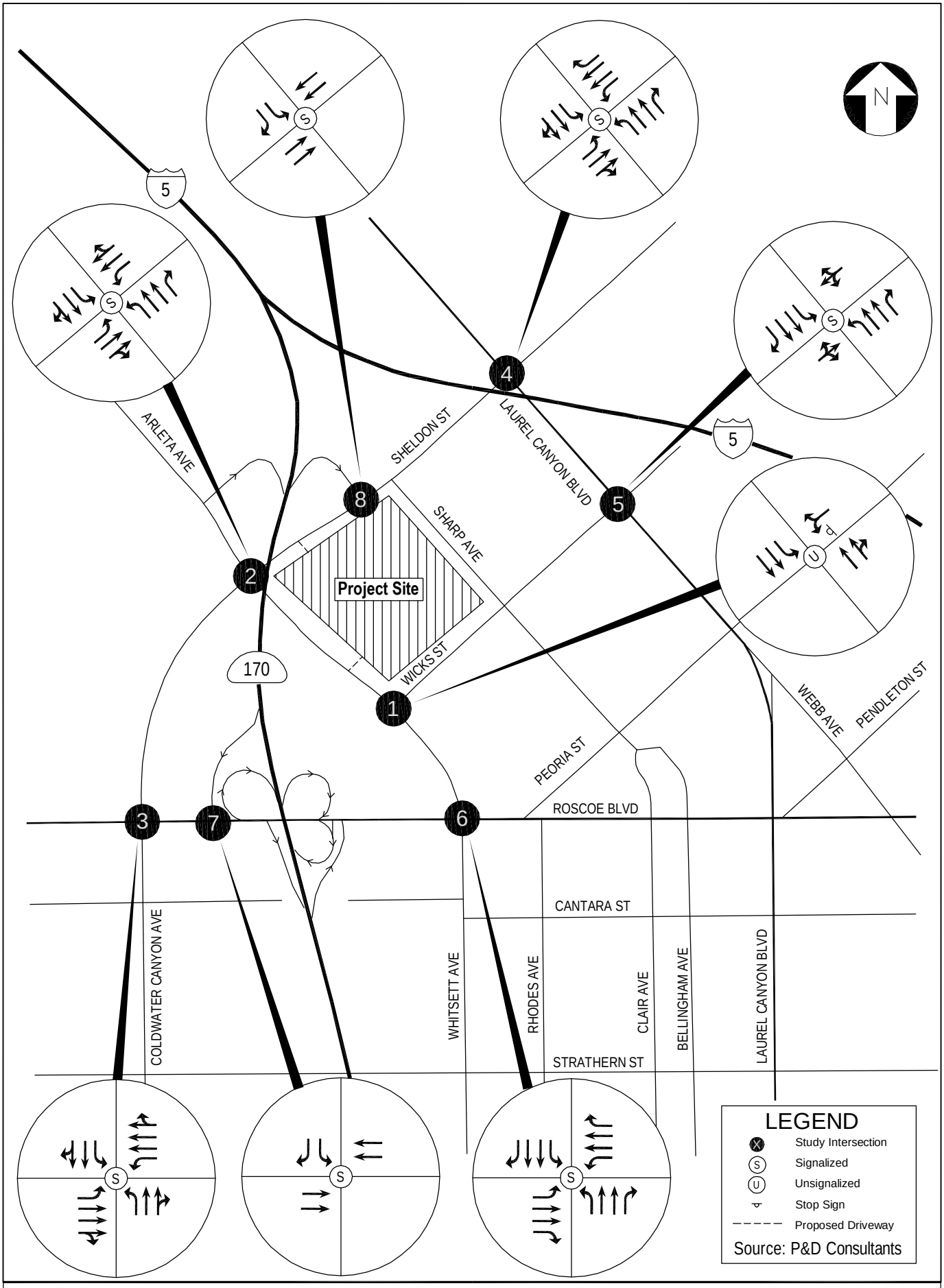

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Figure 3.1-1
Existing Intersection Lane Geometry and Control

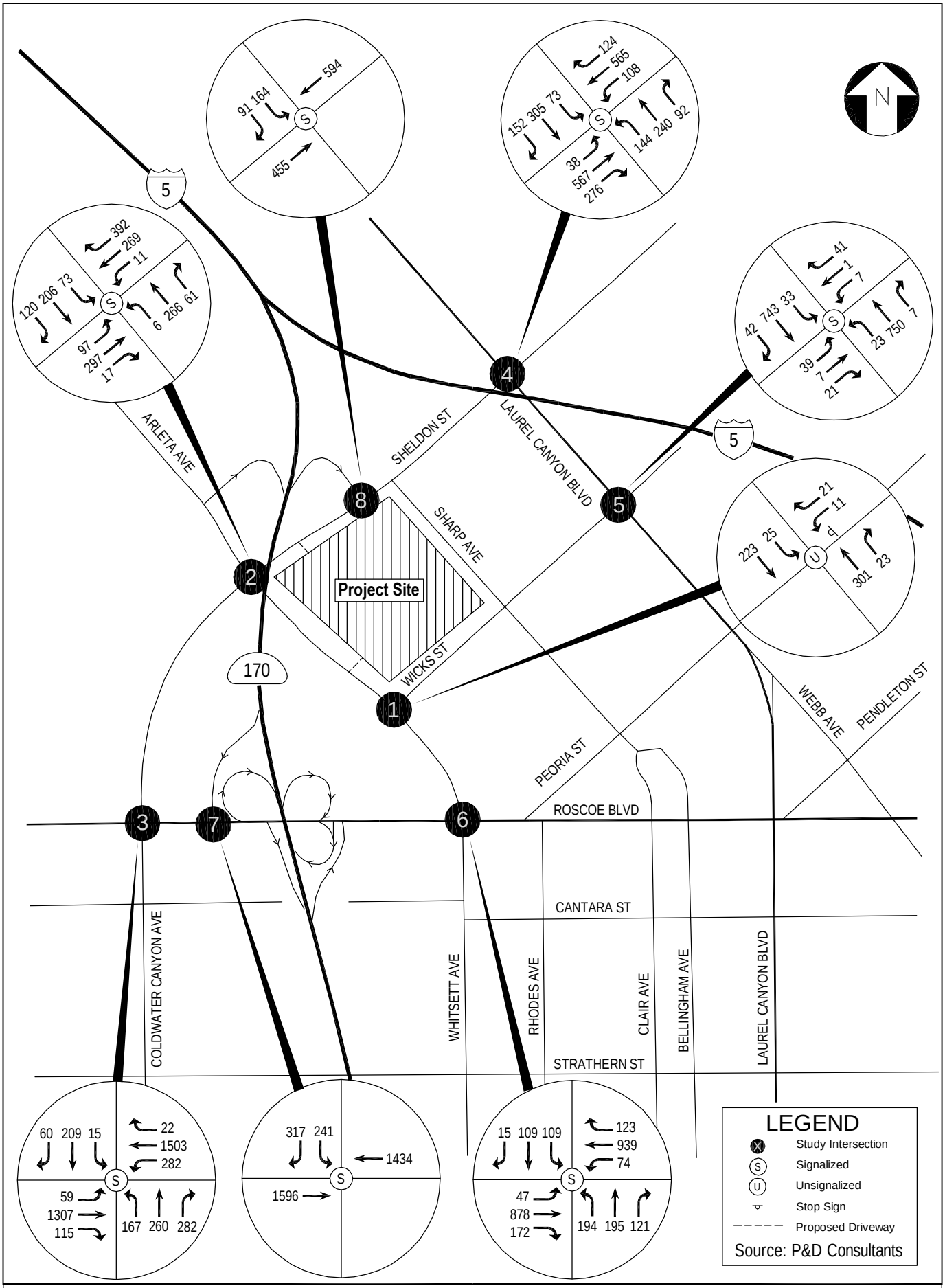

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Figure 3.2-2

Existing Saturday Midday Peak Hour Intersection Turning Volumes

Unsignalized Intersection LOS

The level of service analysis for the one stop-controlled intersection within the study area was performed using the techniques of the latest *Highway Capacity Manual* (HCM). Computational worksheets for the LOS analyses are provided in Appendix B.

Table 3.3-2 summarizes the existing LOS at the unsignalized intersection in the study area based on the 2000 HCM methodology.

Table 3.3-2
UNSIGNALIZED INTERSECTION LEVELS OF SERVICE
Existing Conditions

Intersection		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
Index	**Location**	**Delay [(1)]**	**LOS**	**Delay**	**LOS**
1	Arleta Ave. & Wicks St	24.2	C	10.4	B

Source: P&D Consultants
[(1)] Delay: Average delay, measured in seconds.

As the Table 3.3-2 shows, under existing conditions, the unsignalized intersection of Arleta Ave. and Wicks St. operates at acceptable LOS C or better during both the weekday PM peak hour and the Saturday midday peak hour.

As discussed in Section 2.8 Regulatory Framework, if an unsignalized intersection is projected to operate at LOS C, D, E or F, re-analyze the intersection using the signalized intersection methodology to determine the significant of impacts. Table 3.3-3 shows the resulting V/C and LOS using the signalized intersection methodology. Computational worksheets are provided in Appendix F.

Table 3.3-3
RE-ANALYSIS OF UNSIGNALIZED INTERSECTION LEVELS OF SERVICE
Existing Conditions

Intersection		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
Index	**Location**	**V/C**	**LOS**	**V/C**	**LOS**
1	Arleta Ave. & Wicks St	0.443	A	0.146	A

Source: P&D Consultants

As shown in Table 3.3-2, the intersection of Arleta Ave. and Wicks St. operates at level of service (LOS) A during both weekday PM peak hour and Saturday midday peak hour.

4.0 TRAFFIC IMPACT ANALYSIS (2007)

This section discusses the 2007 impacts (if any) due to the proposed project. The year 2007 was assumed to represent the project opening year. This section analyzes traffic conditions (levels of service) with and without the proposed project, identifies traffic impacts based on a comparison

of these conditions, and identifies the potential need for mitigation measures which are described in a later section.

The level of service analyses was performed for the study intersections using the methodologies described earlier in Section 2.7. Computational worksheets are provided in Appendix D. LOS analyses are based on existing intersection lane configurations.

Project related traffic impacts were determined by comparing intersection levels of service with and without the project. Significant traffic impacts were identified based on the LADOT policies and procedures as previously discussed in Section 2.8.

As previously discussed in Section 2.1, an annual growth rate was applied to both mid-block daily traffic volumes and intersection peak hour turning movements to obtain the base 2007 background (without project) traffic volumes. The total 2007 background (without project) traffic volumes were then calculated by adding traffic associated with a number of cumulative projects, described in Section 4.1, to the base traffic volumes.

4.1 CUMULATIVE PROJECTS

This section identifies cumulative projects which are adjacent to the project site (generally within a 1.5 mile radius of the proposed project site) and foreseeable to be constructed before the proposed project build-out year (2007). Staff members from the LADOT were contacted and the LADOT related projects database was reviewed to provide updated information regarding the cumulative projects. The information about the cumulative projects, such as land use type, location, trip generations, were also provided by LADOT related project database. The location of these cumulative projects is illustrated in Figure 4.1-1 and the cumulative project list is provided in Table 4.1-1.

It should be noted; the entire LADOT project data list included 11 related projects within an approximate 1.5 mile radius from the project site. However, based on discussion with LADOT staff, projects dated prior to 1996 (eight years ago) were removed because it is assumed they have already been constructed. Related projects that were estimated to generate less than 43 PM peak hour trips were also removed because traffic from these projects would have negligible traffic impacts. In addition, according to LADOT guidelines, projects expected to generate less than 43 PM trips would not likely require a traffic study.

The East Valley High School #1A was not included in the LADOT database, but is listed in Table 4.1-1. This is because the proposed High School is located immediately west of the proposed project site and will add related project traffic to the study intersections included in this analysis.

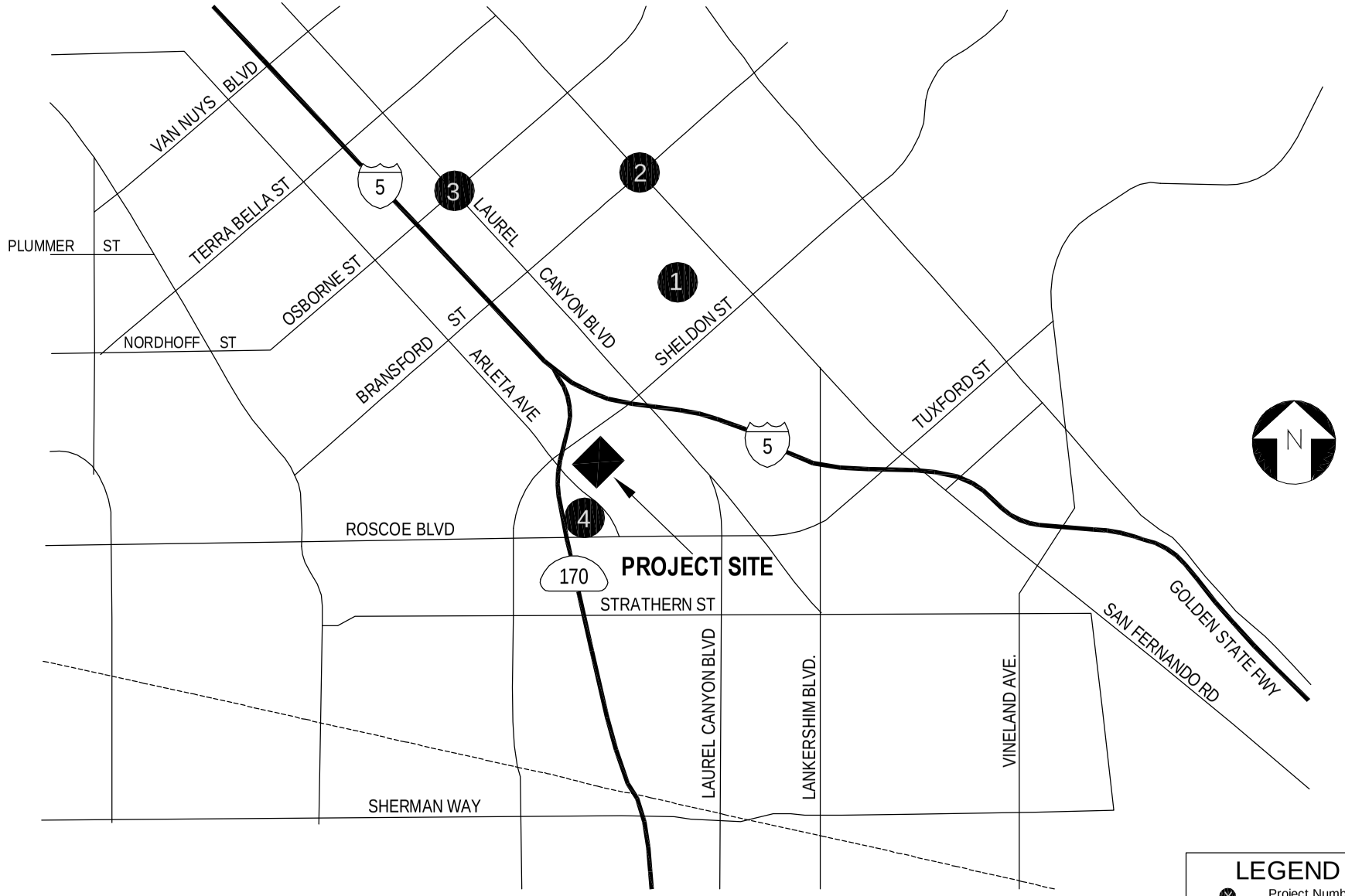

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Figure 4.1-1
Cumulative Project Locations

Table 4.1-1
Cumulative Project

Related ID (LADOT)	Traffic Index Number*	Project Name	Project Description	Street	Cross-street
225	1	Shopping Center	Construction of a 18,760 sf shopping center	Laurel Canyon Blvd	Jerome St.
437	2	Industrial Park	550,000 sf self storage facility	Branford St.	San Fernando Road
604	3	Fast food Restaurant with drive-through	Construct fast food restaurant (2,516 sf) with drive through	Laurel Canyon Blvd	Osborne St.
-	4	East Valley High School #1A	High School	Arleta Ave.	Roscoe Blvd

Source: LADOT related projects database, http://www.lacity.org/ladot/dotdv2b.htm (2004)
* Used for identification purposes only, refer to Figure 4.1-1.

Since LADOT only provides trip generations for weekday PM peak hours, trip generation for the Saturday midday peak hour were derived by multiplying the known trip generations for weekday PM peak hour by a ratio of Saturday trip generation rate to weekday trip generation rate as documented in the ITE Trip Generation. Table 4.1-2 shows trip generation for the weekday PM peak hour and Saturday midday peak period. It should be noted that, High School project traffic during Weekday PM peak hour is minus. This is due to the conversion of half of the existing Anthony Office building to the High School.

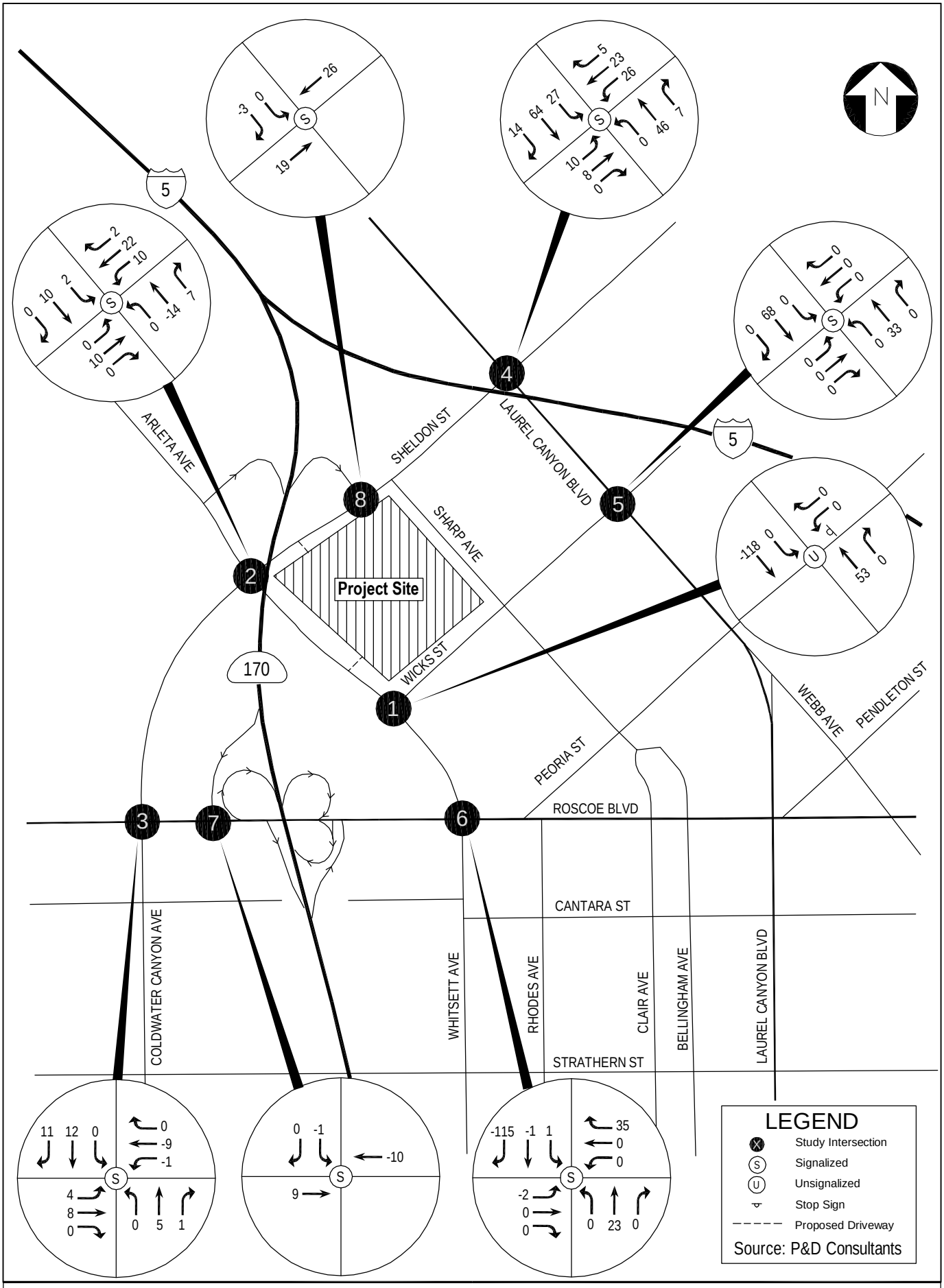
Table 4.1-2
Cumulative Project Trip Generation

Related ID (LADOT)	Traffic Index Number	Project Name	Weekday PM Peak Hour[1]			Saturday Midday Peak Hour[2]		
			Total	In	Out	Total	In	Out
225	1	Shopping Center	208	100	108	276	143	132
437	2	Industrial Park	539	113	426	219	70	149
604	3	Fast food Restaurant with drive-through	84	44	40	144	73	70
-	4	High School	-59	60	-119	108	61	170

Source: [1] LADOT
[2] P & D Consultants.

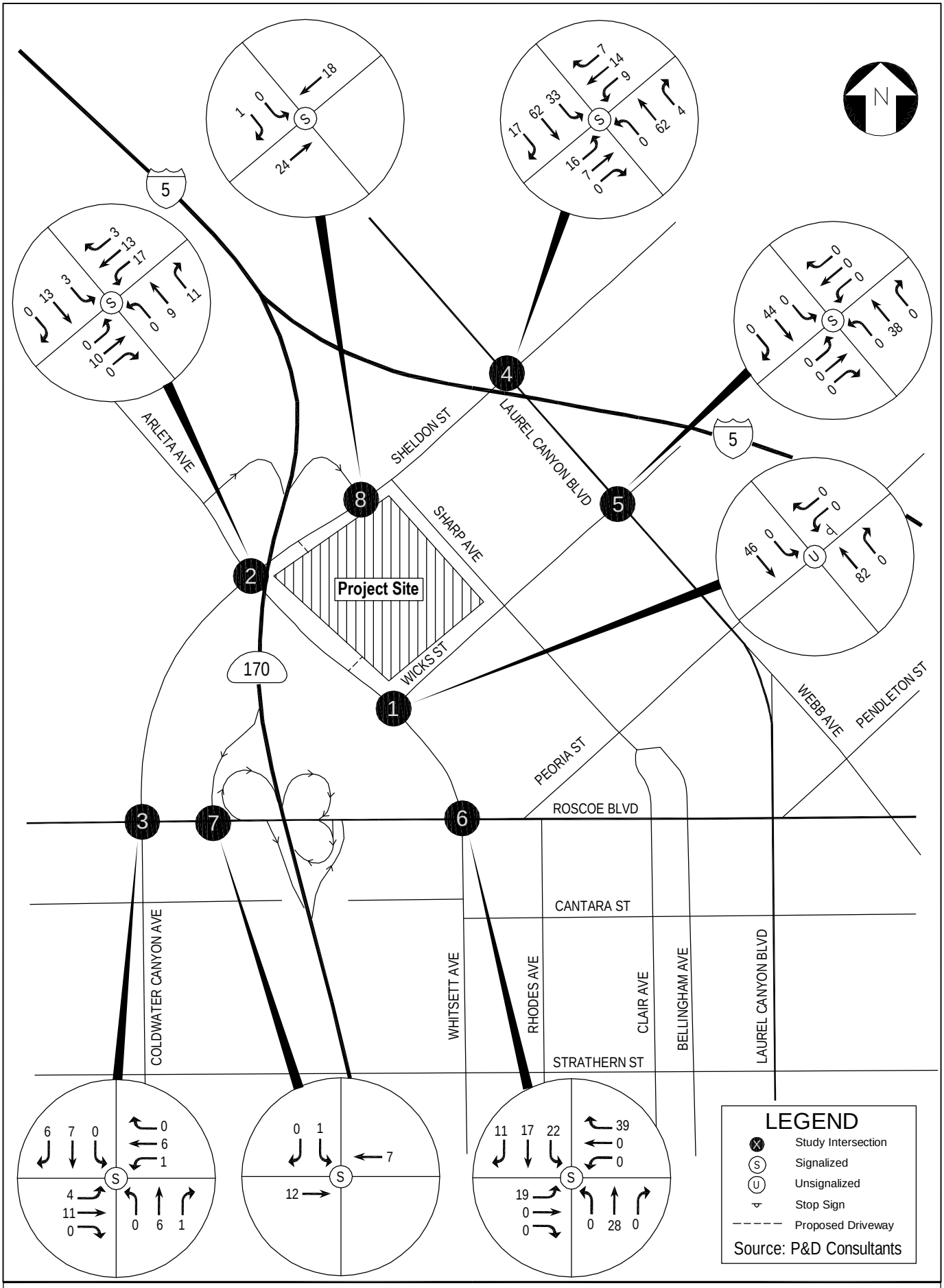
Trip distributions for the cumulative projects were done according to Guidelines for CMP Transportation Impact Analysis[7]. Figure 4.1-2 and 4.1-3 show trip distribution at the study intersections for weekday PM peak hour and Saturday midday peak hour, separately.

[7] 2002 Congestion Management Program for Los Angeles County, Metropolitan Transportation Authority (MTA).



P&D Consultants, Inc.

Figure 4.1-2
Cumulative Project Traffic (Weekday PM Peak Hour)



P&D Consultants, Inc.

Figure 4.1-3
Cumulative Project Traffic (Saturday Midday Peak Hour)

4.2 OPENING YEAR (2007) TRAFFIC CONDITIONS

Opening year (2007) traffic volumes without the project at the study intersections were obtained by summing existing traffic volumes, ambient growth and cumulative project traffic. Opening year traffic volume with the project was obtained by adding project generated traffic to opening year traffic volumes.

Figures 4.2-1 and 4.2-2 shows the 2007 traffic conditions without the project for the weekday PM peak hour and Saturday midday peak period, respectively. Figure 4.2-3 and Figure 4.2-4 shows traffic conditions with the project for the weekday PM peak hour and Saturday midday peak period, respectively. The project traffic generation and distributions were derived as previously discussed in Sections 2.4 & 2.5.

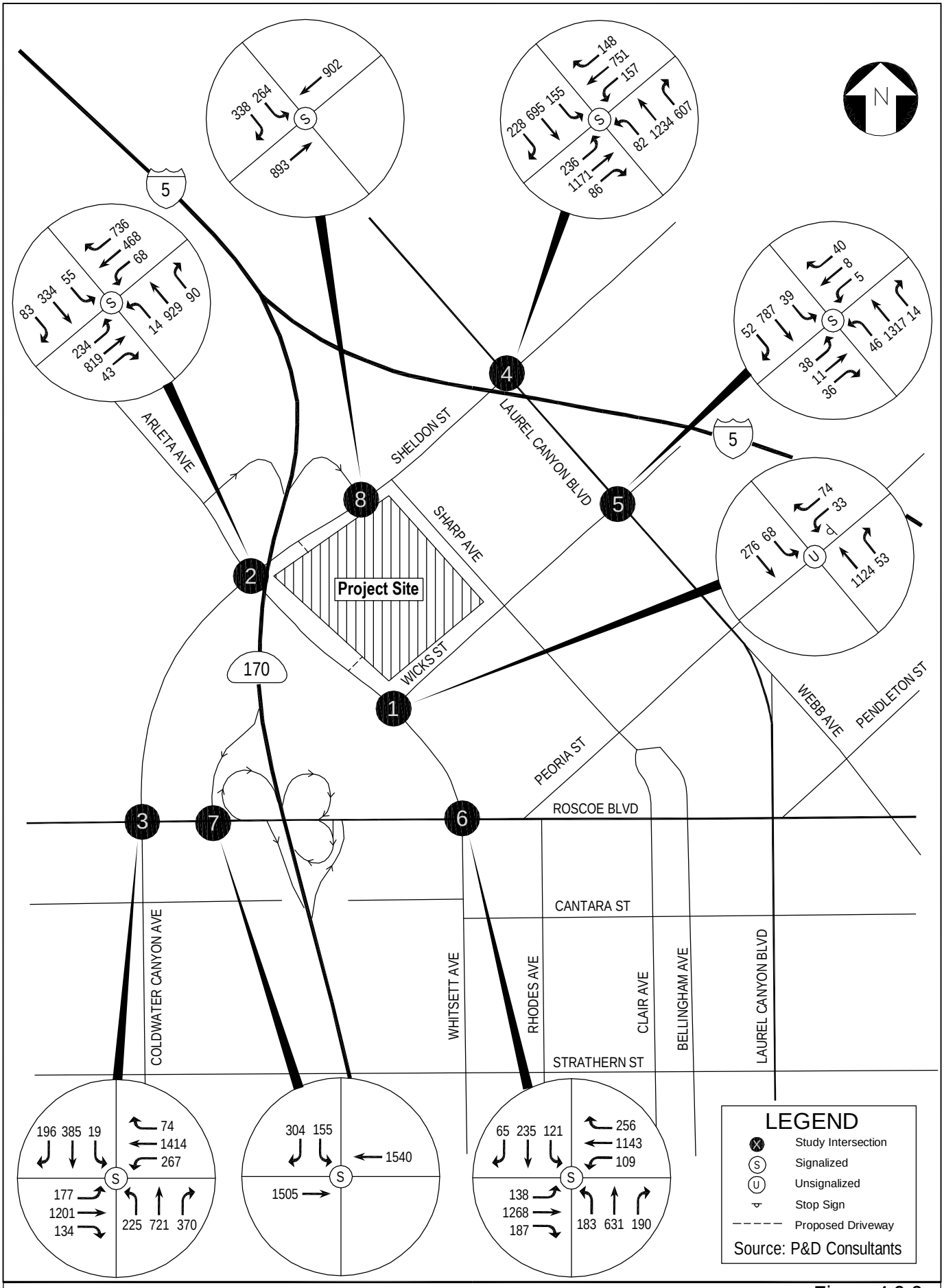
4.3 SIGNALIZED INTERSECTIONS

The following discuses impacts (if any) to the study intersections for the various analysis scenarios (both weekday and weekend periods are covered). Table 4.3-1 summarizes the signalized intersection impact results for the weekday period (4-6 PM). Also shown in Table 4.3-1 is the 2007 without and with V/C and corresponding LOS, change in V/C for the without and with project scenarios, and change in LOS for the without and with project scenarios. Computational worksheets are provided in Appendix B.

Table 4.3-1
2007 SIGNALIZED INTERSECTION IMPACT SUMMARY
(Weekday)

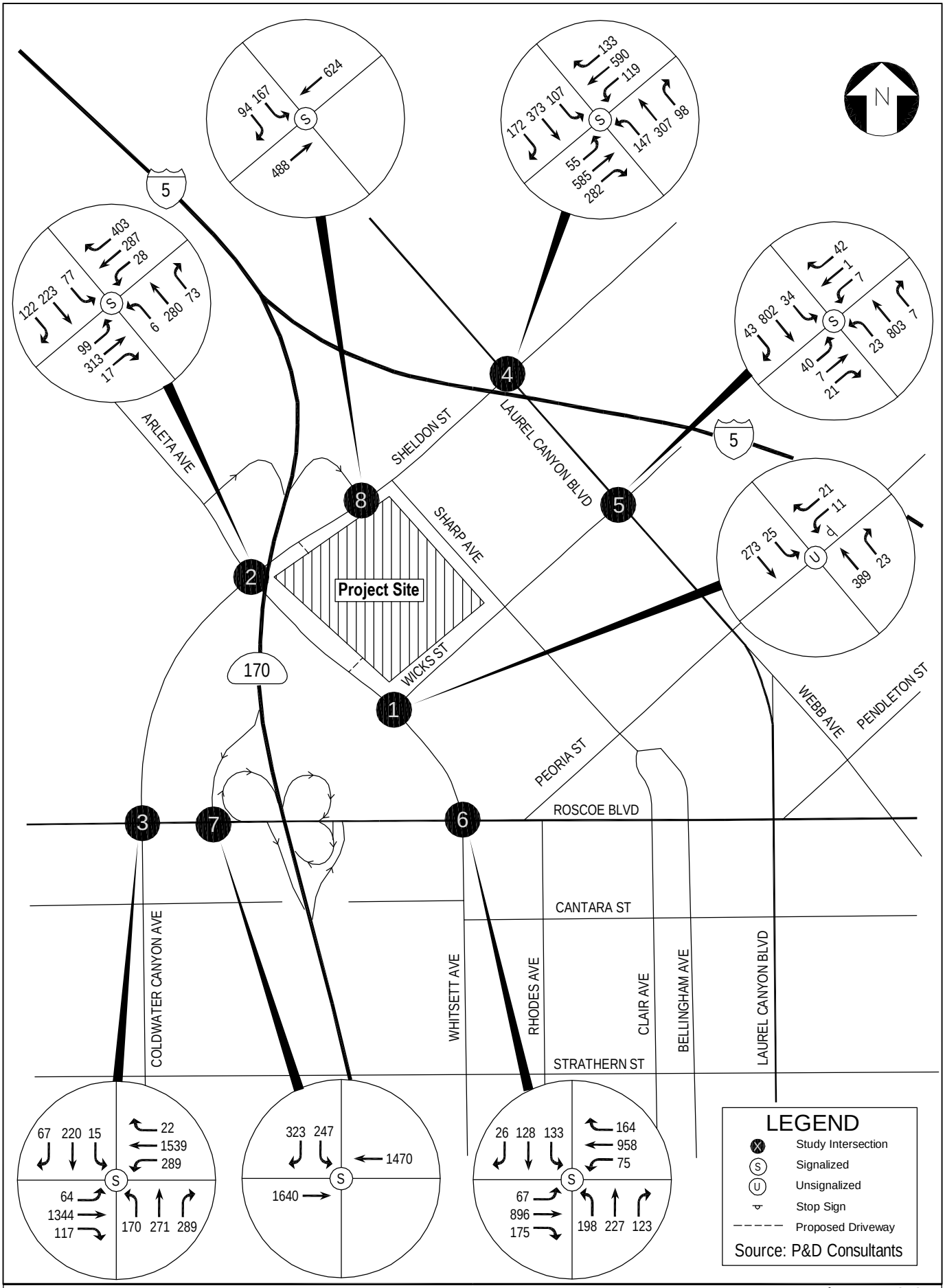
Index	Intersection	2007 Without Project Scenario [1] Weekday PM		2007 With Project Scenario [2] Weekday PM		Change in V/C	Change in LOS (Yes or No)	Significant Impact [3] (Yes or No)
		V/C	LOS	V/C	LOS			
2	Arleta Ave. & Sheldon St.	0.974	**E**	0.993	**E**	0.019	NO	**YES**
3	Sheldon St. & Roscoe Blvd	0.881	**D**	0.896	**D**	0.015	NO	NO
4	Sheldon St. & Laurel Canyon Blvd	1.032	**F**	1.038	**F**	0.006	NO	NO
5	Wicks St. & Laurel Canyon Blvd	0.520	A	0.526	A	0.006	NO	NO
6	Arleta Ave. & Roscoe Blvd	0.777	C	0.786	C	0.009	NO	NO
7	Roscoe Blvd & SR-170 SB off-ramp	0.774	C	0.781	C	0.007	NO	NO
8	Sheldon St. & SR-170 NB off-ramp	0.544	A	0.574	A	0.030	NO	NO

[1] Ambient + Related Projects
[2] Ambient + Related Projects + Project Traffic
[3] Refer to section 2.8 of this report for a complete discussion of impacts



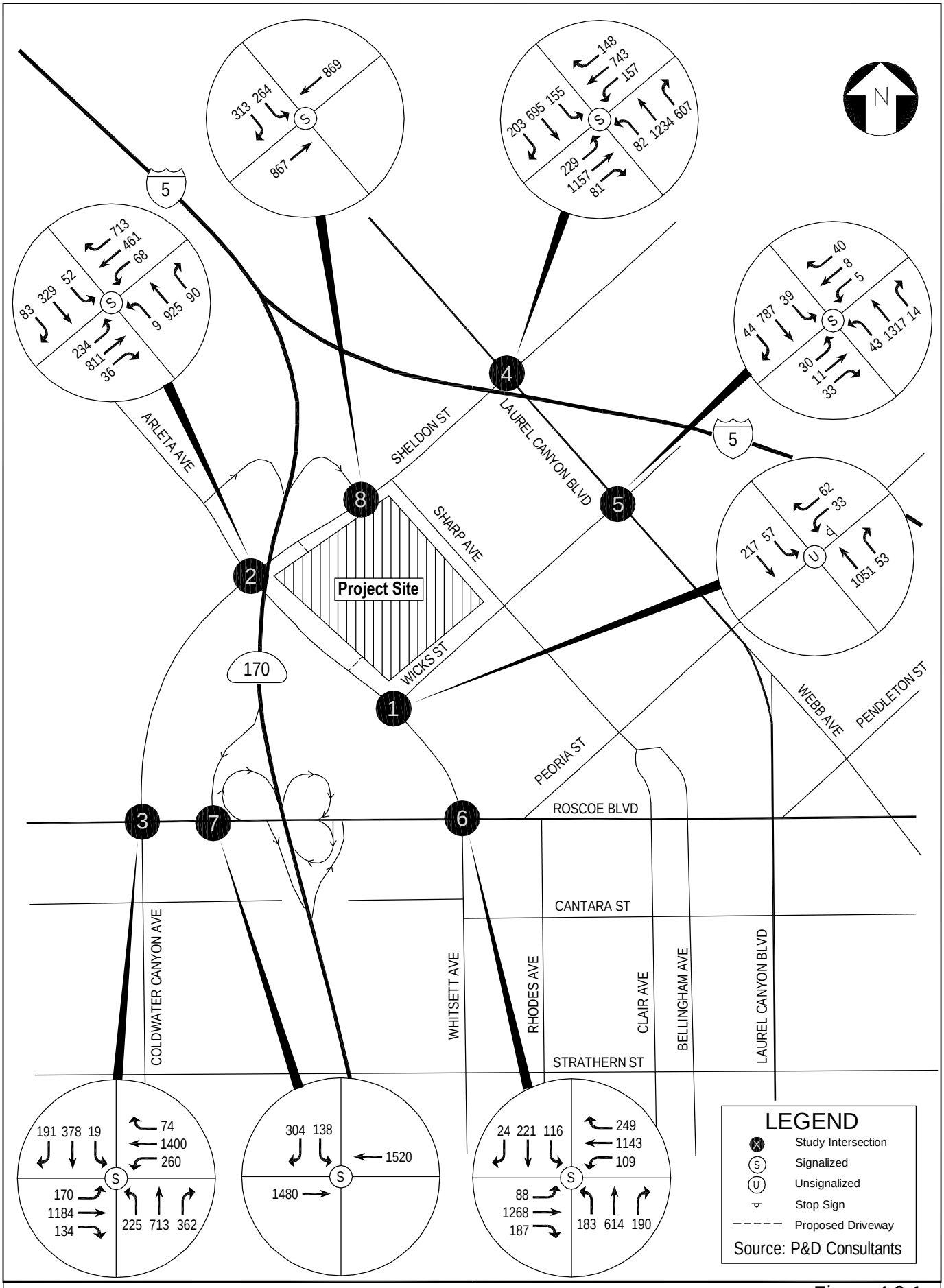
P&D Consultants, Inc.

Figure 4.2-3
Opening Year (2007) Weekday PM Peak Hour
Intersection Turning Volumes With Project



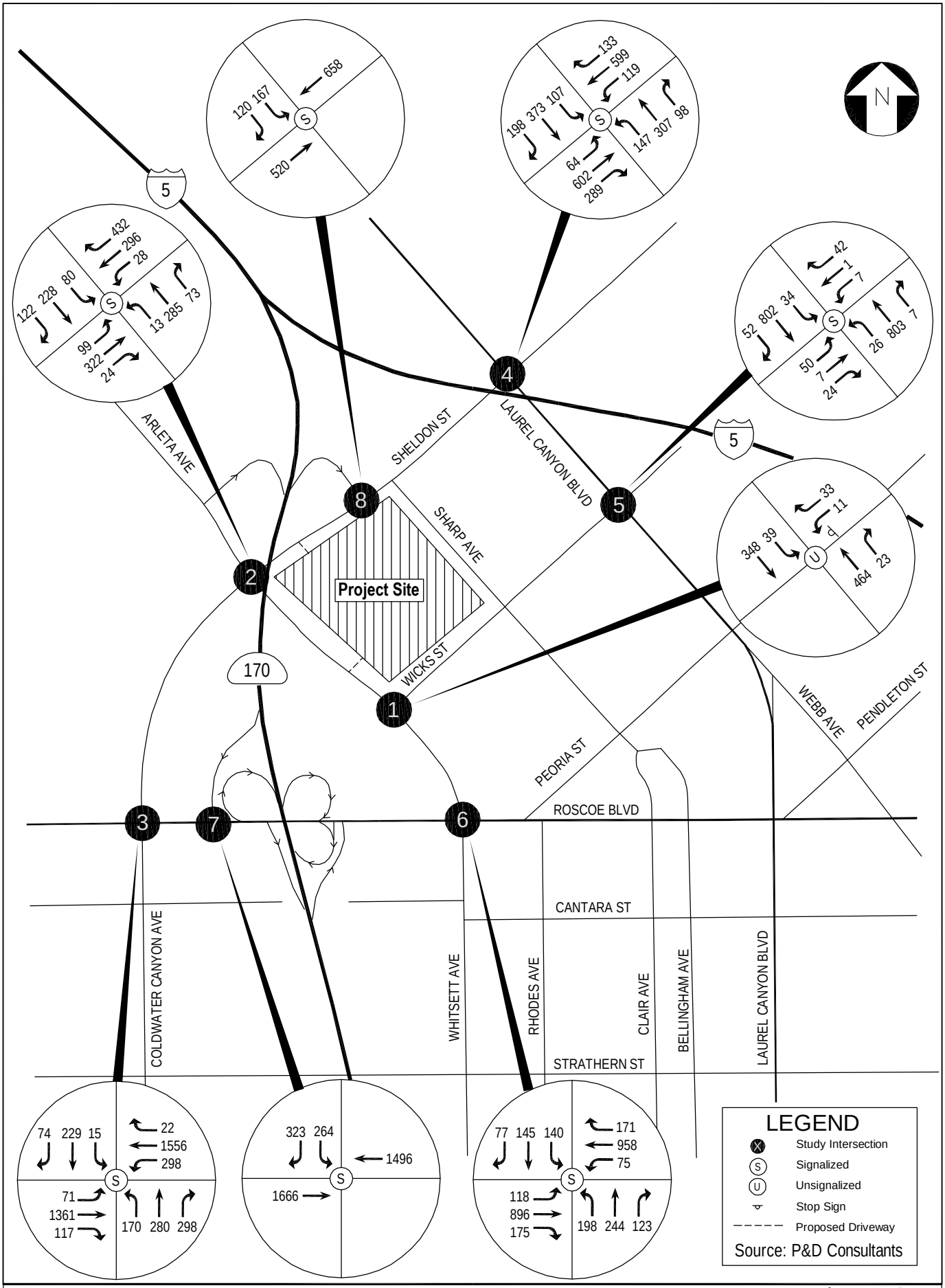
P&D Consultants, Inc.

Figure 4.2-2
Opening Year (2007) Saturday Midday Peak Hour
Intersection Turning Volumes Without Project



P&D Consultants, Inc.

Figure 4.2-1
Opening Year (2007) Weekday PM Peak Hour
Intersection Turning Volumes Without Project



P&D Consultants, Inc.

Figure 4.2-4
Opening Year (2007) Saturday Midday Peak Hour
Intersection Turning Volumes With Project

As shown in Table 4.3-1, all intersections are expected to operate at acceptable levels of service (LOS) C or better under the condition with and without the project except the intersection of Sheldon St. with Arleta Ave., Roscoe Blvd, and Laurel Canyon Blvd. For the intersection of Sheldon St. and Arleta Ave, Level of service (LOS) E is primarily due to high westbound right turn traffic. For the intersection of Sheldon St. and Roscoe Blvd, LOS D is primarily due to relatively high northbound right turn traffic which shares the right lane with northbound through traffic. For the intersection of Sheldon St. and Laurel Canyon Blvd, Level of service (LOS) F is primarily caused by high northbound through traffic and high eastbound through traffic.

A comparison of the scenario without project and the scenario with project shows that no level of service is expected to change due to the proposed project during weekday PM peak. Based on Regulatory Framework discussed in Section 2.8, the proposed project is deemed to have no significantly adverse impact on all study intersections except the intersection of Arleta Ave. and Sheldon St. This is primarily due to high westbound right turn traffic onto SR-170 SB on-ramp.

Table 4.3-2 summarizes the signalized intersection impact results for the Saturday period (12-2 PM). Computational worksheets are provided in Appendix B.

Table 4.3-2
2007 SIGNALIZED INTERSECTION IMPACT SUMMARY
(Saturday)

Index	Intersection	2007 Without Project Scenario [1] Saturday		2007 With Project Scenario [2] Saturday		Change in V/C	Change in LOS (Yes or No)	Significant Impact [3] (Yes or No)
		V/C	LOS	V/C	LOS			
2	Arleta Ave. & Sheldon St.	0.479	A	0.502	A	0.023	NO	NO
3	Sheldon St. & Roscoe Blvd	0.765	C	0.780	C	0.015	NO	NO
4	Sheldon St. & Laurel Canyon Blvd	0.648	B	0.665	B	0.017	NO	NO
5	Wicks St. & Laurel Canyon Blvd	0.343	A	0.351	A	0.008	NO	NO
6	Arleta Ave. & Roscoe Blvd	0.539	A	0.578	A	0.039	NO	NO
7	Roscoe Blvd & SR-170 SB off-ramp	0.831	**D**	0.841	**D**	0.010	NO	NO
8	Sheldon St. & SR-170 NB off-ramp	0.348	A	0.361	A	0.013	NO	NO

[1] Ambient + Related Projects
[2] Ambient + Related Projects + Project Traffic
[3] Refer to section 2.8 of this report for a complete discussion of impacts

As shown in Table 4.3-2, all intersections will operate at acceptable levels of service (LOS) C or better during Saturday midday peak hour except the intersection of Roscoe Blvd and SR-170 SB off-ramp which will operate at LOS D. This is primarily due to high traffic volume on eastbound and westbound through approaches. Based on Regulatory Framework discussed in Section 2.8, the proposed project is deemed to have no significantly adverse impact on all study intersections during Saturday midday peak hour.

4.4 UNSIGNALIZED INTERSECTIONS

The following discusses impacts (if any) to the unsignalized intersection within the study area.

As Table 4.3-3 shows, the only unsignalized intersection within the study area is projected to operate at LOS D during weekday PM peak hour under 2007 traffic conditions with and without the proposed project based on HCM methodology. The increase in seconds, 2007 without the project compared to 2007 with the project, for the unsignalized intersection is 5.4 seconds and does not affect the LOS. Computational worksheets are provided in Appendix B.

Table 4.3-3
2007 UNSIGNALIZED INTERSECTION IMPACT SUMMARY
(Weekday)

Index	Intersection	2007 Without Project Scenario [1] Weekday P.M.		2007 With Project Scenario [2] Weekday P.M.		Increase (Sec.)	Change in LOS (Yes or No)
		Sec/Veh	LOS	Sec/Veh	LOS		
1	Arleta Ave. & Wicks St	25.8	D	31.2	D	5.4	No

Source: P&D Consultants
[1] Existing traffic plus ambient growth and without project traffic.
[2] Existing traffic plus ambient growth, plus project traffic.

As Table 4.3-4 shows, the only unsignalized intersection within the study area is projected to operate at LOS B during Saturday midday peak hour under 2007 traffic conditions with and without the proposed project. The increase in seconds, 2007 without the project compared to 2007 with the project, for the unsignalized intersection is only 0.5 seconds and does not affect the LOS. Computational worksheets are provided in Appendix B.

Table 4.3-4
2007 UNSIGNALIZED INTERSECTION IMPACT SUMMARY
(Saturday)

Index	Intersection	2007 Without Project Scenario [1] Saturday		2007 With Project Scenario [2] Saturday		Increase (Sec.)	Change in LOS (Yes or No)
		Sec/Veh	LOS	Sec/Veh	LOS		
1	Arleta Ave. & Wicks St	11.1	B	11.6	B	0.5	No

Source: P&D Consultants
[1] Existing traffic plus ambient growth and without project traffic.
[2] Existing traffic plus ambient growth, plus project traffic.

As discussed in Section 2.8 Regulatory Framework, if an unsignalized intersection is projected to operate at LOS C, D, E or F, re-analyze the intersection using the signalized intersection

methodology to determine the significant of impacts. Table 4.3-5 and Table 4.3-6 show the resulting V/C and LOS using signalized intersection methodology. Computational worksheets are provided in Appendix F.

Table 4.3-5
RE-ANALYSIS OF 2007 UNSIGNALIZED INTERSECTION (Weekday)

Index	Intersection	2007 Without Project Scenario [1] Weekday PM		2007 With Project Scenario [2] Weekday PM		Change in V/C	Change in LOS (Yes or No)	Significant Impact [3] (Yes or No)
		V/C	LOS	V/C	LOS			
1	Arleta Ave. & Wicks St	0.469	A	0.509	A	0.040	No	No

Source: P&D Consultants
[1] Existing traffic plus ambient growth and without project traffic.
[2] Existing traffic plus ambient growth, plus project traffic.
[3] Based on significance criteria for signalized intersections.

Table 4.3-6
RE-ANALYSIS OF 2007 UNSIGNALIZED INTERSECTION (Saturday)

Index	Intersection	2007 Without Project Scenario [1] Saturday		2007 With Project Scenario [2] Saturday		Change in V/C	Change in LOS (Yes or No)	Significant Impact [3] (Yes or No)
		V/C	LOS	V/C	LOS			
1	Arleta Ave. & Wicks St	0.175	A	0.218	A	0.043	No	No

Source: P&D Consultants
[1] Existing traffic plus ambient growth and without project traffic.
[2] Existing traffic plus ambient growth, plus project traffic.
[3] Based on significance criteria for signalized intersections.

As shown in Table 4.3-5 and 4.3-6, the intersection of Arleta Ave. and Wicks St. will operate at an acceptable level of service (LOS) A during both weekday PM peak hour and Saturday midday peak hour under 2007 traffic condition with and without the proposed project. The proposed project will have no significant impact on this intersection.

4.5 LOCAL RESIDENTIAL STREET

As shown in Figure 4.2-1 and Figure 4.2-2, the Average Daily Traffic (ADT) on Wicks St. (the Local residential street included in this analysis) was more than 2,000 but less than 3,000. As discussed in Section 2.8, a local residential street shall be deemed significantly impacted if the project-related increase is 10 percent or more of the final ADT. From Figure 2.6-2 it can be seen that an additional 188 project-related trips would occur on Saturday and 90 trips on weekdays. The increase in ADT is less than 10 percent, so the proposed project is not expected to have significant adverse impacts on Wicks St.

5.0 SITE SPECIFIC ISSUES

This section describes the assessment of other site-specific issues related to the proposed project. Specifically, this section addresses parking impacts, project access impacts and traffic signal warrants.

5.1 PARKING ANALYSIS

A review of the Los Angeles Municipal Code, ITE Parking Generation and other professional publications indicates no documented parking requirements specified for sports fields. As discussed in Section 2.4, 300 trips would occur during weekday PM peak hour and 340 trips would occur during the Saturday midday peak hour. Assuming a conservative vehicle occupancy rate of 1.5 persons per car and a parking turnover rate of 1 hour, 227 parking spaces are needed.

As previously discussed in Section 1.1 of this report, approximately 350 parking spaces would be built along the boundary of the project site. So parking spaces are expected to be sufficient for visitors.

5.2 PROJECT SITE ACCESS ANALYSIS

Primary vehicular entrance would be provided via Arleta Ave., and secondary vehicular entrance would be provided on Sheldon St. Using the traffic volumes assigned to the driveways, the queuing analyses for left-turn inbound vehicles and left-turn outbound vehicles were done using the traffic impact study software.

Arleta Ave. Entrance

For both left-turn-in and left-turn-out vehicles, the left-turn turn lane would be used for the storage lane to wait for gaps to complete the turning movement. As previously shown in Figure 2.5-1, 12 vehicles would turn left into the project site during weekday PM peak hour and Saturday midday peak hour. Approximately 70 vehicles would make the left turn out of the project site during the weekday PM peak hour and 88 vehicles would make the left turn out of the project site during the Saturday midday peak period.

The queuing analysis indicates that no queue would occur for both the left-turn-in and left-turn-out vehicles. Detailed working sheets are provided in Appendix C of this report.

Sheldon St. Entrance

As previously shown in Figure 2.5-1, 12 vehicles would turn left into the project site during the weekday PM peak hour and Saturday midday peak period. Approximately 30 vehicles would make the left turn out of the project site during the weekday PM peak hour and 37 vehicles would make the left turn out of the project site during the Saturday midday peak period.

The queuing analysis indicates that no queue would occur for both the left-turn-in and left-turn-out vehicles. Detailed working sheets are provided in Appendix C of this report.

5.3 TRAFFIC SIGNAL WARRANTS

A traffic signal warrant analysis was conducted for the only unsignalized intersection (Arleta Avenue & Wicks Street) within the study area. This was completed for both the 4-6 PM (weekday) and 12-2 PM (weekend) periods for the following scenarios: existing conditions, opening year (2007) without project, and opening year with project.

A traffic signal warrant analysis was not conducted for the other study intersections due to the fact that they have already been signalized.

The Caltrans Peak Hour Warrant is commonly used to evaluate the need for a traffic signal. Figure 9-8 from the Caltrans Traffic Manual (Peak Hour Volume Warrant, Urban Areas) was used in this analysis and is included in Appendix D of this report. The peak hour warrant is satisfied when the plotted point, representing the vehicles per hour on the major street and corresponding minor street volume, falls above the curve for the existing combination of approach lanes. Refer to Appendix D of this report for the peak hour warrant curve.

Based on the Caltrans Peak Hour Warrant, the proposed project would not increase traffic levels enough to require a traffic signal at the intersection of Arleta Avenue & Wicks Street during any of the analysis periods. The key results from the signal warrant analysis is summarized in Table 5.3-1.

Table 5-3.1
SIGNAL WARRANT SUMMARY
Arleta Avenue and Wicks Street Intersection

Scenario	Major Street Volume, Total of Both Approaches (VPH)	Minor Street Volume, High Volume Approach (VPH)	Peak Hour Signal Warrant Met (yes or no)
Existing Conditions (Weekday)	1,414	93	NO
Existing Conditions (Weekend)	572	32	NO
Opening Year (2007) Without Project (Weekday)	1368	95	NO
Opening Year (2007) Without Project (Weekend)	710	32	NO
Opening Year (2007) With Project (Weekday)	1521	107	NO
Opening Year (2007) With Project (Weekend)	874	44	NO

Source: P&D Consultants

6.0 MITIGATION MEASURES AND PROJECT REQUIREMENTS

As previously discussed in Section 4, the proposed project will have significant impact on the intersection of Sheldon St. and Arleta Ave because of high westbound right turn traffic. This could be mitigated by adding a dedicated right-turn only lane on the westbound approach. The current through-right lane will stay as a through-right lane and make a total of 2 right lanes for

right turn traffic. After the mitigation, the intersection of Sheldon St. and Arleta Ave. is expected to change LOS from E to D. The computation sheet is included in Appendix E.

In addition, LADOT recommends the following Project Requirements be adopted as conditions of project approval (refer to Appendix G).

- Automated Traffic Surveillance and Control (ATSAC) System/Adaptive Traffic control Systems (ATCS)

  The intersection of Arleta Avenue and Sheldon Street will be mitigated to a less-than-significant level by funding the proportionate share of the cost for the design and construction of the Golden State Freeway Corridor ATSAC/ATCS System. The project's proportionate share of the cost for the Golden State Freeway Corridor ATSAC/ATCS System is equal to the average ATSAC/ATCS System cost per intersection, which currently is $104,800. The Golden State Freeway Corridor ATSAC/ATCS System is fully funded and currently scheduled for completion in January 2007. The ATSAC/ATCS System has received funding from the City of Los Angeles in excess of $104,800. Therefore, due to the fact the ATSAC/ATCS improvement has been funded by the City of Los Angeles, and the city is the applicant for the Sheldon-Arleta Sports Field Park, the intersection of Arleta Avenue and Sheldon Street is mitigated to a less-than-significant level and there are no further requirements.

- Highway Dedication and Improvements

  Due to the unknown underground extent of the previous landfill, the proposed project will not be required to dedicate and widen along the entire project frontage. The dedication and improvements will only be required as needed for site access, to the satisfaction of DOT.

- Project Access to Sheldon Street

  Dedication, widening, and restriping are required, to the satisfaction of DOT, to provide median channelization on Sheldon Street for two-way left turn lanes and/or left turn pockets for full service access to the project site.

- Project Access to Arleta Avenue

  Dedication, widening, and restriping are required, to the satisfaction of DOT, to provide full service access to the project site at Arleta Avenue. Project access shall be lined up directly opposite the existing DWP/LAUSD site driveway located on the west side of Arleta Avenue. The project driveway shall be constructed in such a manner as to meet the driveway standard required for signalized driveways, to the satisfaction of DOT.

7.0 CONGESTION MANAGEMENT PROGRAM CONFORMANCE

This section briefly demonstrate the ways in which this traffic study was prepared to be in conformance with the procedures mandated by the County of Los Angeles Congestion Management Program (CMP).

Congestion Management Program System

The CMP was created statewide as a result of Proposition 111 and has been implemented locally by the Los Angeles County metropolitan Transportation Authority (LACMTA). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. 160 intersections are identified for monitoring on the system. This section describes the project-related analysis of the CMP system. The analysis has been conducted according to the guidelines set for in the 2002 CMP for Los Angeles County. Per CMP Transportation Impact Analysis (TIA) Guidelines, a CMP traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on- or off- ramps, where the proposed project will add 50 or more trips during peak hours;
- At CMP mainline freeway-monitoring locations, where the project will add 150 or more trips, in either direction, during peak hours.

For the proposed project, no freeway segments meet these thresholds during either weekday PM peak hour or Saturday midday peak hour. However, The SR-170 northbound off-ramp at Sheldon St. and SR-170 southbound off-ramp at Roscoe Blvd. meet the intersection threshold, therefore, they were included in this traffic study.

8.0 SUMMARY OF FINDINGS

This section summarizes key findings from the traffic study for both existing conditions and 2007 (opening year) conditions for the proposed project.

8.1 EXISTING CONDITIONS

- The intersection of Arleta Ave. and Sheldon St. currently operates at unacceptable Level of Service (LOS) E during weekday PM peak hour.
- The intersection of Sheldon St. and Roscoe Blvd. currently operates at unacceptable Level of Service (LOS) D during weekday PM peak hour.
- The intersection of Sheldon St. and Laurel Canyon Blvd. operates at unacceptable Level of Service (LOS) E during weekday PM peak hour.
- The intersection of Roscoe Blvd and SR-170 Southbound off-ramp currently operates at unacceptable LOS D during Saturday midday peak hour.

8.2 2007 TRAFFIC CONDITIONS

- The proposed project is expected to generate traffic of approximately 300 vehicle trips during weekday PM peak hour, and 340 vehicle trips during the Saturday midday peak hour.
- Project traffic is assumed to be distributed approximately 30% to the north, 11% to the east, 45% to the south, and 14% to the west.
- 60% of project traffic is expected to use the vehicular entrance from Arleta Avenue (the primary entrance) and approximately 40% is projected to use the Sheldon Street entrance (the secondary entrance).
- The intersections of Sheldon St. with Arleta Ave., Roscoe Blvd., and Laurel Canyon Blvd would operate at unacceptable LOS D or worse during weekday PM peak hour in the scenario both with and without project.
- The intersection of Roscoe Blvd and SR-170 southbound off-ramp would operate at unacceptable LOS D during Saturday midday peak hour.
- The proposed project would have significant impact on the intersection of Arleta Ave. and Sheldon St. when it becomes operational in 2007. Adding a dedicated right-turn only lane and keep the current through-right lane will change LOS from E to D.
- The proposed project would not have significant neighborhood intrusion impacts on local residential street (Wicks St.)
- The SR-170 northbound off-ramp at Sheldon St. and SR-170 southbound off-ramp at Roscoe Blvd. meet CMP intersection threshold.
- No queues are anticipated to occur at the proposed driveways.
- Parking supply would be enough.

APPENDICES

Appendix A
EXISTING TRAFFIC COUNTS

Appendix B
LEVEL OF SERVICE COMPUTATION REPORTS

Appendix C
QUEUING ANALYSIS WORKING SHEETS

Appendix D
SIGNAL WARRANTS

Appendix E
LEVEL OF SERVICE AFTER MITIGATION

Appendix F
RE-ANALYSIS OF THE UNSIGNALIED INTERSECTION

Appendix G
LADOT TRAFFIC ASSESSMENT

Appendix A
EXISTING TRAFFIC COUNTS AND GAP STUDY

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Thursday, March 18, 2004 City: sun Valley Project #: 04-1198-010

Location: Wicks e/o Arleta Ave

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
12:00-12:15			2		2			12:00-12:15			16		4		
12:15-12:30			0		0			12:15-12:30			10		13		
12:30-12:45			3		0			12:30-12:45			20		12		
12:45-1:00			0	5	1	3	8	12:45-1:00			33	79	21	50	129
1:00-1:15			2		4			1:00-1:15			22		10		
1:15-1:30			3		1			1:15-1:30			21		15		
1:30-1:45			0		0			1:30-1:45			16		12		
1:45-2:00			1	6	2	7	13	1:45-2:00			9	68	13	50	118
2:00-2:15			0		0			2:00-2:15			17		7		
2:15-2:30			1		1			2:15-2:30			32		19		
2:30-2:45			0		0			2:30-2:45			25		26		
2:45-3:00			0	1	0	1	2	2:45-3:00			26	100	10	62	162
3:00-3:15			1		0			3:00-3:15			26		9		
3:15-3:30			1		0			3:15-3:30			56		23		
3:30-3:45			0		0			3:30-3:45			125		125		
3:45-4:00			0	2	3	3	5	3:45-4:00			53	260	69	226	486
4:00-4:15			0		1			4:00-4:15			32		31		
4:15-4:30			0		0			4:15-4:30			33		20		
4:30-4:45			1		0			4:30-4:45			32		21		
4:45-5:00			0	1	0	1	2	4:45-5:00			24	121	18	90	211
5:00-5:15			0		0			5:00-5:15			16		20		
5:15-5:30			0		1			5:15-5:30			25		26		
5:30-5:45			2		1			5:30-5:45			27		34		
5:45-6:00			5	7	3	5	12	5:45-6:00			26	94	29	109	203
6:00-6:15			2		10			6:00-6:15			27		25		
6:15-6:30			3		4			6:15-6:30			47		33		
6:30-6:45			2		9			6:30-6:45			36		24		
6:45-7:00			12	19	15	38	57	6:45-7:00			52	162	14	96	258
7:00-7:15			30		29			7:00-7:15			30		21		
7:15-7:30			150		77			7:15-7:30			25		16		
7:30-7:45			129		146			7:30-7:45			14		9		
7:45-8:00			24	333	27	279	612	7:45-8:00			16	85	19	65	150
8:00-8:15			32		17			8:00-8:15			16		13		
8:15-8:30			19		12			8:15-8:30			14		11		
8:30-8:45			12		19			8:30-8:45			18		15		
8:45-9:00			24	87	8	56	143	8:45-9:00			11	59	14	53	112
9:00-9:15			14		17			9:00-9:15			14		18		
9:15-9:30			13		16			9:15-9:30			8		18		
9:30-9:45			11		12			9:30-9:45			10		10		
9:45-10:00			11	49	6	51	100	9:45-10:00			8	40	4	50	90
10:00-10:15			17		7			10:00-10:15			1		4		
10:15-10:30			17		18			10:15-10:30			9		1		
10:30-10:45			7		9			10:30-10:45			4		7		
10:45-11:00			7	48	13	47	95	10:45-11:00			2	16	0	12	28
11:00-11:15			18		7			11:00-11:15			4		2		
11:15-11:30			12		5			11:15-11:30			5		2		
11:30-11:45			6		12			11:30-11:45			3		2		
11:45-12:00			15	51	3	27	78	11:45-12:00			1	13	3	9	22
Total Vol.	0	0		609		518	1127		0	0		1097		872	1969
Daily Totals									0	0		1706		1390	3096

Average Daily Traffic Volumns

Prepared by: Southland Car Counters

Volumes for: Saturday, March 20, 2004 City: sun Valley Project #: 04-1198-010

Location: Wicks e/o Arleta Ave

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
12:00-12:15			5		0			12:00-12:15			12		9		
12:15-12:30			3		3			12:15-12:30			14		6		
12:30-12:45			8		2			12:30-12:45			14		13		
12:45-1:00			1	17	6	11	28	12:45-1:00			11	51	15	43	94
1:00-1:15			2		1			1:00-1:15			8		17		
1:15-1:30			8		1			1:15-1:30			17		6		
1:30-1:45			1		0			1:30-1:45			14		5		
1:45-2:00			6	17	4	6	23	1:45-2:00			17	56	11	39	95
2:00-2:15			1		0			2:00-2:15			14		10		
2:15-2:30			0		0			2:15-2:30			8		8		
2:30-2:45			2		2			2:30-2:45			9		8		
2:45-3:00			3	6	4	6	12	2:45-3:00			14	45	11	37	82
3:00-3:15			0		3			3:00-3:15			13		16		
3:15-3:30			0		1			3:15-3:30			6		8		
3:30-3:45			1		0			3:30-3:45			13		11		
3:45-4:00			2	3	1	5	8	3:45-4:00			23	55	15	50	105
4:00-4:15			0		1			4:00-4:15			19		8		
4:15-4:30			1		0			4:15-4:30			18		15		
4:30-4:45			0		0			4:30-4:45			12		15		
4:45-5:00			0	1	0	1	2	4:45-5:00			4	53	21	59	112
5:00-5:15			0		0			5:00-5:15			17		11		
5:15-5:30			0		0			5:15-5:30			11		15		
5:30-5:45			0		0			5:30-5:45			17		7		
5:45-6:00			0	0	0	0		5:45-6:00			13	58	17	50	108
6:00-6:15			1		1			6:00-6:15			15		34		
6:15-6:30			3		1			6:15-6:30			16		6		
6:30-6:45			0		1			6:30-6:45			20		9		
6:45-7:00			1	5	0	3	8	6:45-7:00			17	68	10	59	127
7:00-7:15			1		2			7:00-7:15			14		12		
7:15-7:30			3		3			7:15-7:30			9		15		
7:30-7:45			3		0			7:30-7:45			14		7		
7:45-8:00			7	14	5	10	24	7:45-8:00			15	52	7	41	93
8:00-8:15			3		6			8:00-8:15			8		13		
8:15-8:30			7		6			8:15-8:30			13		11		
8:30-8:45			4		4			8:30-8:45			6		11		
8:45-9:00			4	18	3	19	37	8:45-9:00			8	35	8	43	78
9:00-9:15			12		6			9:00-9:15			5		9		
9:15-9:30			13		8			9:15-9:30			10		7		
9:30-9:45			16		3			9:30-9:45			11		8		
9:45-10:00			12	53	11	28	81	9:45-10:00			3	29	6	30	59
10:00-10:15			5		9			10:00-10:15			5		7		
10:15-10:30			10		9			10:15-10:30			6		2		
10:30-10:45			11		11			10:30-10:45			8		10		
10:45-11:00			16	42	8	37	79	10:45-11:00			6	25	4	23	48
11:00-11:15			14		3			11:00-11:15			2		8		
11:15-11:30			13		8			11:15-11:30			9		5		
11:30-11:45			14		10			11:30-11:45			5		2		
11:45-12:00			8	49	12	33	82	11:45-12:00			11	27	3	18	45
Total Vol.	0	0		225		159	384		0	0		554		492	1046
Daily Totals									0	0		779		651	1430

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Thursday, March 18, 2004 City: sun Valley Project #: 04-1198-009

Location: Wicks St w/o Laurel Cyn

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
12:00-12:15			0		3			12:00-12:15			15		4		
12:15-12:30			0		3			12:15-12:30			17		16		
12:30-12:45			3		0			12:30-12:45			16		19		
12:45-1:00			2	5	2	8	13	12:45-1:00			37	85	16	55	140
1:00-1:15			1		0			1:00-1:15			17		5		
1:15-1:30			1		1			1:15-1:30			16		9		
1:30-1:45			0		0			1:30-1:45			22		8		
1:45-2:00			0	2	1	2	4	1:45-2:00			14	69	13	35	104
2:00-2:15			1		1			2:00-2:15			16		15		
2:15-2:30			0		1			2:15-2:30			27		9		
2:30-2:45			0		1			2:30-2:45			24		9		
2:45-3:00			1	2	0	3	5	2:45-3:00			19	86	9	42	128
3:00-3:15			3		0			3:00-3:15			28		13		
3:15-3:30			1		0			3:15-3:30			24		27		
3:30-3:45			0		0			3:30-3:45			75		45		
3:45-4:00			0	4	1	1	5	3:45-4:00			40	167	17	102	269
4:00-4:15			1		2			4:00-4:15			18		20		
4:15-4:30			0		0			4:15-4:30			14		17		
4:30-4:45			5		1			4:30-4:45			22		15		
4:45-5:00			0	6	0	3	9	4:45-5:00			26	80	16	68	148
5:00-5:15			2		0			5:00-5:15			21		19		
5:15-5:30			0		0			5:15-5:30			18		14		
5:30-5:45			6		3			5:30-5:45			26		21		
5:45-6:00			0	8	2	5	13	5:45-6:00			22	87	30	84	171
6:00-6:15			3		6			6:00-6:15			31		41		
6:15-6:30			9		9			6:15-6:30			61		46		
6:30-6:45			7		8			6:30-6:45			41		33		
6:45-7:00			8	27	10	33	60	6:45-7:00			32	165	24	144	309
7:00-7:15			25		21			7:00-7:15			18		23		
7:15-7:30			60		66			7:15-7:30			20		21		
7:30-7:45			100		49			7:30-7:45			25		14		
7:45-8:00			39	224	17	153	377	7:45-8:00			37	100	23	81	181
8:00-8:15			20		16			8:00-8:15			24		12		
8:15-8:30			19		19			8:15-8:30			33		12		
8:30-8:45			9		9			8:30-8:45			24		9		
8:45-9:00			26	74	15	59	133	8:45-9:00			13	94	14	47	141
9:00-9:15			18		6			9:00-9:15			25		10		
9:15-9:30			19		11			9:15-9:30			19		10		
9:30-9:45			12		6			9:30-9:45			14		16		
9:45-10:00			20	69	9	32	101	9:45-10:00			6	64	6	42	106
10:00-10:15			14		11			10:00-10:15			4		12		
10:15-10:30			35		11			10:15-10:30			19		7		
10:30-10:45			6		10			10:30-10:45			3		5		
10:45-11:00			16	71	14	46	117	10:45-11:00			8	34	2	26	60
11:00-11:15			24		9			11:00-11:15			2		3		
11:15-11:30			8		8			11:15-11:30			11		5		
11:30-11:45			20		13			11:30-11:45			4		2		
11:45-12:00			12	64	8	38	102	11:45-12:00			4	21	1	11	32
Total Vol.	0	0		556		383	939		0	0		1052		737	1789
Daily Totals									0	0		1608		1120	2728

Average Daily Traffic Volumns

Prepared by: Southland Car Counters

Volumes for: Saturday, March 20, 2004 City: sun Valley Project #: 04-1198-009

Location: Wicks St w/o Laurel Cyn

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
12:00-12:15			7		4			12:00-12:15			25		22		
12:15-12:30			3		1			12:15-12:30			41		18		
12:30-12:45			7		6			12:30-12:45			18		25		
12:45-1:00			3	20	4	15	35	12:45-1:00			22	106	10	75	181
1:00-1:15			4		6			1:00-1:15			24		14		
1:15-1:30			3		6			1:15-1:30			37		20		
1:30-1:45			8		4			1:30-1:45			34		25		
1:45-2:00			7	22	4	20	42	1:45-2:00			27	122	18	77	199
2:00-2:15			2		1			2:00-2:15			23		19		
2:15-2:30			0		3			2:15-2:30			39		17		
2:30-2:45			3		5			2:30-2:45			34		22		
2:45-3:00			0	5	3	12	17	2:45-3:00			22	118	19	77	195
3:00-3:15			2		3			3:00-3:15			37		21		
3:15-3:30			0		0			3:15-3:30			49		0		
3:30-3:45			0		1			3:30-3:45			41		0		
3:45-4:00			0	2	1	5	7	3:45-4:00			55	182	0	21	203
4:00-4:15			0		1			4:00-4:15			25		17		
4:15-4:30			2		0			4:15-4:30			44		14		
4:30-4:45			0		1			4:30-4:45			22		16		
4:45-5:00			0	2	0	2	4	4:45-5:00			13	104	21	68	172
5:00-5:15			0		0			5:00-5:15			22		15		
5:15-5:30			1		1			5:15-5:30			18		14		
5:30-5:45			0		0			5:30-5:45			18		12		
5:45-6:00			1	2	1	2	4	5:45-6:00			21	79	13	54	133
6:00-6:15			3		1			6:00-6:15			20		19		
6:15-6:30			3		0			6:15-6:30			21		10		
6:30-6:45			3		1			6:30-6:45			27		19		
6:45-7:00			2	11	2	4	15	6:45-7:00			17	85	15	63	148
7:00-7:15			2		0			7:00-7:15			18		22		
7:15-7:30			3		2			7:15-7:30			18		12		
7:30-7:45			3		8			7:30-7:45			18		16		
7:45-8:00			3	11	6	16	27	7:45-8:00			19	73	8	58	131
8:00-8:15			3		8			8:00-8:15			13		10		
8:15-8:30			9		6			8:15-8:30			26		9		
8:30-8:45			10		8			8:30-8:45			30		8		
8:45-9:00			13	35	15	37	72	8:45-9:00			11	80	9	36	116
9:00-9:15			16		28			9:00-9:15			7		14		
9:15-9:30			13		17			9:15-9:30			9		10		
9:30-9:45			7		8			9:30-9:45			10		9		
9:45-10:00			16	52	11	64	116	9:45-10:00			14	40	6	39	79
10:00-10:15			23		17			10:00-10:15			3		7		
10:15-10:30			17		12			10:15-10:30			11		8		
10:30-10:45			12		15			10:30-10:45			12		6		
10:45-11:00			24	76	9	53	129	10:45-11:00			10	36	7	28	64
11:00-11:15			24		22			11:00-11:15			14		4		
11:15-11:30			35		10			11:15-11:30			1		4		
11:30-11:45			32		13			11:30-11:45			9		11		
11:45-12:00			27	118	27	72	190	11:45-12:00			11	35	5	24	59
Total Vol.	0	0		356		302	658		0	0		1060		620	1680
Daily Totals									0	0		1416		922	2338

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Thursday, March 18, 2004 *Client's Ref:* *Project No* 04-1197-001

N-S Street *Arleta Ave* *E-W Street* *Wicks St* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:		2	0	1	2	2				0	1	0	
4:00 P		157	14	11	60					7		15	264
4:15 P		164	20	14	63					5		13	279
4:30 P		194	9	17	77					10		12	319
4:45 P		220	13	6	72					9		10	330
5:00 P		253	13	11	70					4		17	368
5:15 P		252	17	13	88					11		17	398
5:30 P		247	10	12	98					7		15	389
5:45 P		226	12	20	72					10		12	352
Totals:		1713	108	104	600					63		111	2699
Peak HR Factor:		0.957			0.873			0.914			0.861		0.947

PM Peak Hour Begins at 5:00 PM *15 Min. Peak :* 5:15 PM

Peak Volumes:		978	52	56	328					32		61	1507

Intersection Control: 1-Way Stop WB

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Arleta Ave DATE: 3/18/2004 LOCATION: City of Hollywood

E-W STREET: Sheldon St DAY: THURSDAY PROJECT# 04-1197-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	4	174	15	10	66	24	59	131	2	8	89	170	752
4:15 PM	2	158	11	8	63	26	62	132	2	7	88	161	720
4:30 PM	3	188	17	23	86	26	43	165	5	7	83	172	818
4:45 PM	2	228	23	13	75	31	63	206	16	12	112	164	945
5:00 PM	2	222	14	10	62	20	68	229	5	14	109	191	946
5:15 PM	2	220	15	11	76	10	43	177	6	20	109	200	889
5:30 PM	3	251	29	15	100	20	55	173	8	11	100	142	907
5:45 PM	6	202	22	9	83	20	62	140	3	8	66	118	739
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	24	1643	146	99	611	177	455	1353	47	87	756	1318	6716

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Sheldon St DATE: 3/18/2004 LOCATION: City of Hollywood

E-W STREET: Roscoe Blvd DAY: THURSDAY PROJECT# 04-1197-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	39	156	54	5	66	26	30	253	22	48	312	6	1017
4:15 PM	44	170	66	5	64	29	32	265	28	55	321	9	1088
4:30 PM	50	169	77	7	78	33	40	276	25	61	344	11	1171
4:45 PM	55	175	79	6	84	38	46	273	28	67	349	14	1214
5:00 PM	49	190	108	4	87	38	49	289	39	61	321	16	1251
5:15 PM	52	167	85	4	105	46	44	301	29	62	364	23	1282
5:30 PM	65	162	82	5	83	54	24	290	35	66	347	20	1233
5:45 PM	58	163	68	7	78	33	27	262	37	68	327	51	1179
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	412	1352	619	43	645	297	292	2209	243	488	2685	150	9435

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Thursday, March 18, 2004 *Client's Ref:* *Project No* 04-1197-004

N-S Street *Sheldon St* *E-W Street* *Laurel Canyon Blvd* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	2	0	1	2	0	0	2	0	1	2	0		
4:00 P	43	223	20	44	193	48	34	194	40	14	217	133	1203
4:15 P	49	163	15	36	112	18	19	161	30	7	193	117	920
4:30 P	46	257	23	44	134	35	29	152	45	21	231	126	1143
4:45 P	56	289	32	25	163	21	25	176	51	15	273	118	1244
5:00 P	46	274	23	35	242	44	38	162	31	23	312	148	1378
5:15 P	49	258	9	34	162	37	27	134	53	16	261	167	1207
5:30 P	64	305	15	34	139	38	35	147	50	26	319	155	1327
5:45 P	47	234	18	48	94	36	26	171	47	18	282	122	1143
Totals:	400	2003	155	300	1239	277	233	1297	347	140	2088	1066	9565
Peak HR Factor:		0.924			0.759			0.922			0.917		0.935

PM Peak Hour Begins at 4:45 PM *15 Min. Peak :* 5:00 PM

Peak Volumes:	215	1126	79	128	706	140	125	619	185	80	1165	588	5156

Intersection Control: signalized 1

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Thursday, March 18, 2004 *Client's Ref:* *Project No* 04-1197-005

N-S Street *Laurel Canyon Blvd* *E-W Street* *Wicks St* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	0	1	2	2	0	1	0	0	1	0	
4:00 P	4	225	2	8	178	13	4	0	4	1	3	7	449
4:15 P	5	237	1	20	195	12	15	3	8	0	0	7	503
4:30 P	6	255	3	5	191	5	10	3	6	1	0	4	489
4:45 P	4	288	1	8	197	11	16	1	5	1	3	5	540
5:00 P	11	306	2	8	157	6	4	2	8	1	1	5	511
5:15 P	7	322	1	8	191	9	7	4	7	0	1	15	572
5:30 P	7	340	5	7	175	13	10	2	10	1	4	9	583
5:45 P	17	291	6	15	182	15	8	3	7	3	2	10	559
Totals:	61	2264	21	79	1466	84	74	18	55	8	14	62	4206
Peak HR Factor:		0.934			0.927			0.818			0.813		0.954
PM Peak Hour Begins at		5:00 PM					*15 Min. Peak :*		5:30 PM				
Peak Volumes:	42	1259	14	38	705	43	29	11	32	5	8	39	2225

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Thursday, March 18, 2004 *Client's Ref:* *Project No* 04-1197-006

N-S Street *Arleta Ave* *E-W Street* *Roscoe Blvd* *Area:* *Hollywood*

	NorthBound			SouthBound			EastBound			WestBound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:	1	2	0	1	2	2	1	2	0	1	2	0	
4:00 PM	55	123	26	19	55	10	30	322	40	27	258	57	1022
4:15 PM	30	87	37	25	39	7	30	308	41	22	261	59	946
4:30 PM	32	125	47	31	55	4	25	275	43	26	257	45	965
4:45 PM	40	113	46	24	66	9	29	289	41	16	267	40	980
5:00 PM	29	140	56	19	51	8	22	319	43	26	302	53	1068
5:15 PM	35	161	46	29	68	5	24	347	47	31	278	56	1127
5:30 PM	49	138	43	35	56	4	26	302	55	25	266	61	1060
5:45 PM	66	140	41	30	43	7	16	275	38	25	275	40	996
Totals:	336	1027	342	212	433	54	202	2437	348	198	2164	411	8164
Peak HR Factor:		0.955			0.870			0.906			0.944		0.943
PM Peak Hour Begins at		5:00 PM					15 Min. Peak :		5:15 PM				
Peak Volumes:	179	579	186	113	218	24	88	1243	183	107	1121	210	4251

Intersection Control: Signalized

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: SR-170 SB off ramp DATE: 3/18/2004 LOCATION: City of Hollywood

E-W STREET: Roscoe Blvd DAY: THURSDAY PROJECT# 04-1197-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL 1	ST 0	SR 1	EL 0	ET 3	ER 1	WL 0	WT 3	WR 1	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM				27		66		216	136		328	33	806
4:15 PM				35		75		206	144		363	37	860
4:30 PM				36		79		214	170		377	50	926
4:45 PM				28		70		200	161		386	44	889
5:00 PM				37		74		134	213		374	33	865
5:15 PM				23		62		216	167		332	37	837
5:30 PM				42		65		180	132		290	41	750
5:45 PM				26		70		240	115		297	35	783
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	0	0	254	0	561	0	1606	1238	0	2747	310	6716

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Thursday, March 18, 2004 *Client's Ref:* *Project No* 04-1197-008

N-S Street SR-170 NB off ramp *E-W Street* Sheldon St *Area:* Hollywood

	NorthBound			SouthBound			EastBound			WestBound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:				1.5				2			2		
4:00 P				69		71		163			188		491
4:15 P				70		78		208			197		553
4:30 P				79		83		166			210		538
4:45 P				37		88		238			191		554
5:00 P				71		63		195			203		532
5:15 P				73		77		206			215		571
5:30 P				78		82		192			217		569
5:45 P				60		86		167			172		485
Totals:				537		628		1535			1593		4293
Peak HR Factor:		0.924			0.759			0.922			0.917		0.975
PM Peak Hour Begins at			4:45 PM			15 Min. Peak :			5:15 PM				
Peak Volumes:				259		310		831			826		2226

Intersection Control: Signalized;

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Arleta Ave DATE: 3/20/2004 LOCATION: City of Hollywood

E-W STREET: Wicks St DAY: SATURDAY PROJECT# 04-1197-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:		2	0	1	2					0	1	0	
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
12:00 PM		93	9	4	61					6		9	182
12:15 PM		74	3	5	62					3		6	153
12:30 PM		79	4	8	53					0		5	149
12:45 PM		55	7	8	47					2		1	120
1:00 PM		83	12	3	47					4		2	151
1:15 PM		74	8	2	44					2		3	133
1:30 PM		52	4	3	47					5		6	117
1:45 PM		50	6	4	45					3		5	113
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													

TOTAL VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	560	53	37	406	0	0	0	0	25	0	37	1118

NOON Peak Hr Begins at: 1200 PM

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Saturday, March 20, 2004 *Client's Ref:* *Project No* 04-1197-002

N-S Street *Arleta Ave* *E-W Street* *Sheldon St* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:	1	2	0	1	2	2	1	2	0	1	2	0	
12:00 P	2	63	25	23	61	18	23	87	2	6	78	75	463
12:15 P	1	72	16	16	45	14	24	72	2	3	48	89	402
12:30 P	2	66	16	27	57	31	23	70	2	3	62	99	456
12:45 P	1	60	13	14	50	41	24	71	3	4	75	104	460
1:00 P	2	68	16	16	54	34	26	84	10	1	84	100	495
1:15 P	0	51	9	13	35	15	25	65	0	7	62	91	383
1:30 P	2	44	10	24	56	22	16	82	1	3	70	75	405
1:45 P	0	42	6	17	56	24	23	63	3	4	69	109	416
Totals:	10	476	111	150	414	199	184	594	23	31	548	742	3482
Peak HR Factor:		0.935			0.867			0.856			0.908		0.917
Peak Volumes:	6	266	61	73	206	120	97	297	17	11	269	392	1815

MD Peak Hour Begins at 12:15 PM *15 Min. Peak :* 1:00 PM

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Saturday, March 20, 2004 *Client's Ref:* *Project No* 04-1197-003

N-S Street *Sheldon St* *E-W Street* *Roscoe Blvd* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:	1	2	0	1	2	2	1	2	0	1	2	0	
12:00 P	33	47	60	4	21	14	9	314	19	60	331	4	916
12:15 P	41	52	70	4	44	11	11	322	26	68	371	6	1026
12:30 P	42	61	75	6	52	15	13	343	32	76	382	8	1105
12:45 P	40	72	69	3	56	16	18	322	29	72	377	4	1078
1:00 P	44	75	68	2	57	18	17	320	28	66	373	4	1072
1:15 P	38	62	42	3	38	22	24	331	24	63	331	2	980
1:30 P	33	50	33	3	36	19	16	319	19	55	306	2	891
1:45 P	27	49	28	2	28	16	18	320	16	50	310	2	866
Totals:	298	468	445	27	332	131	126	2591	193	510	2781	32	7934
Peak HR Factor:		0.948			0.922			0.954			0.969		0.969
Peak Volumes:	167	260	282	15	209	60	59	1307	115	282	1503	22	4281

MD Peak Hour Begins at 12:15 PM *15 Min. Peak :* 12:30 PM

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Saturday, March 20, 2004 *Client's Ref:* *Project No* 04-1197-004

N-S Street *Sheldon St* *E-W Street* *Laurel Canyon Blvd* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	2	0	1	2	0	0	2	0	1	2	0		
12:00 P	11	129	69	37	139	28	17	79	32	35	55	20	651
12:15 P	12	136	61	30	137	31	16	71	39	32	63	24	652
12:30 P	10	142	75	34	149	30	18	85	42	38	61	21	705
12:45 P	9	136	73	20	133	33	20	73	37	30	48	24	636
1:00 P	7	153	67	24	146	30	19	76	34	44	68	23	691
1:15 P	12	143	70	32	159	25	13	68	28	29	55	16	650
1:30 P	7	150	77	17	118	30	17	58	24	28	64	24	614
1:45 P	10	139	46	29	137	22	14	66	19	34	43	26	585
Totals:	78	1128	538	223	1118	229	134	576	255	270	457	178	5184
Peak HR Factor:		0.970			0.935			0.914			0.881		0.952
Peak Volumes:	38	567	276	108	565	124	73	305	152	144	240	92	2684

MD Peak Hour Begins at 12:15 PM *15 Min. Peak :* 12:30 PM

Intersection Control: signalized 1

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For P & D Consultants *Client's Project Name*

Saturday, March 20, 2004 *Client's Ref.* *Project No* 04-1197-005

N-S Street *Laurel Canyon Blvd* *E-W Street* *Wicks St* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*	*Total*
Lanes:	1	2	0	1	2	2	0	1	0	0	1	0	
12:00 P	4	164	3	8	183	16	5	1	6	2	1	5	418
12:15 P	5	185	4	6	183	22	6	3	9	2	0	12	437
12:30 P	7	186	1	9	185	7	12	1	4	3	1	7	423
12:45 P	3	192	2	12	196	4	5	1	4	0	0	13	432
1:00 P	8	187	0	6	179	9	16	2	4	2	0	9	422
1:15 P	8	183	2	10	182	6	4	1	7	3	4	10	420
1:30 P	7	185	3	7	191	6	13	0	10	3	1	10	436
1:45 P	8	182	2	8	186	6	10	1	8	2	5	12	430
Totals:	50	1484	17	66	1485	76	71	10	52	17	12	78	3418
Peak HR Factor:		0.990			0.965			0.761			0.875		0.981

MD Peak Hour Begins at 12:15 PM *15 Min. Peak :* 12:15 PM

Peak Volumes:	23	750	7	33	743	42	39	7	21	7	1	41	1714

Intersection Control: Signalized

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Saturday, March 20, 2004 *Client's Ref:* *Project No* 04-1197-006

N-S Street *Arleta Ave* *E-W Street* *Roscoe Blvd* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:	1	2	0	1	2	2	1	2	0	1	2	0	
12:00 P	36	24	19	12	21	3	10	206	26	9	211	23	600
12:15 P	41	35	26	16	18	2	12	211	39	11	216	19	648
12:30 P	52	4	28	21	26	3	8	209	50	13	229	28	671
12:45 P	56	46	35	24	30	2	14	214	52	13	236	31	753
1:00 P	49	52	31	25	28	5	12	219	45	21	242	31	760
1:15 P	44	48	29	30	26	3	11	224	44	20	231	29	739
1:30 P	45	49	26	30	25	5	10	221	31	20	230	32	724
1:45 P	38	49	24	28	26	7	10	247	30	20	245	22	746
Totals:	361	307	218	186	200	30	87	1751	317	127	1840	215	5639
Peak HR Factor:		0.931			0.971			0.979			0.966		0.979

MD Peak Hour Begins at 12:45 PM *15 Min. Peak :* 1:00 PM

Peak Volumes:	194	195	121	109	109	15	47	878	172	74	939	123	2976

Intersection Control: Signalized

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: SR-170 SB off ramp DATE: 3/20/2004 LOCATION: City of Hollywood

E-W STREET: Roscoe Blvd DAY: SATURDAY PROJECT# 04-1197-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:				1	0	1	0	3	1	0	3	1	
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
12:00 PM				52		66		194	140		310	65	827
12:15 PM				61		73		189	163		321	58	865
12:30 PM				78		83		173	198		345	70	947
12:45 PM				55		92		160	208		359	65	939
1:00 PM				66		86		146	246		335	66	945
1:15 PM				62		71		173	233		370	71	980
1:30 PM				58		68		214	216		370	55	981
1:45 PM				55		52		158	207		361	53	886
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
TOTAL VOLUMES =	NL 0	NT 0	NR 0	SL 487	ST 0	SR 591	EL 0	ET 1407	ER 1611	WL 0	WT 2771	WR 503	TOTAL 7370

NOON Peak Hr Begins at: 1245 PM

Intersection Turning Movement Count

Prepared by: Southland Car Counters

Prepared For: P & D Consultants *Client's Project Name*

Saturday, March 20, 2004 *Client's Ref:* *Project No* 04-1197-008

N-S Street *SR-170 NB off ramp* *E-W Street* *Sheldon St* *Area:* *Hollywood*

	NorthBound			*SouthBound*			*EastBound*			*WestBound*			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	Total
Lanes:				1.5				2			2		
12:00 P				29		20		116			139		304
12:15 P				34		19		105			130		288
12:30 P				52		32		106			132		322
12:45 P				34		16		117			167		334
1:00 P				44		24		127			165		360
1:15 P				30		24		85			126		265
1:30 P				39		12		106			136		293
1:45 P				37		20		94			160		311
Totals:				299		167		856			1155		2477
Peak HR Factor:		0.970			0.935			0.914			0.881		0.906
MD Peak Hour Begins at		12:15 PM					*15 Min. Peak :*		1:00 PM				
Peak Volumes:				164		91		455			594		1304

Intersection Control: Signalized;

Appendix B
LEVEL OF SERVICE COMPUTATION REPORTS

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: D[31.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 1	1	0	1	0 2	0	0	0	0 0	0	0	0	0 1!	0	0
Volume Module:																
Base Vol:	0	1051	53		57	217	0		0	0	0		33	0	62	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1051	53		57	217	0		0	0	0		33	0	62	
Added Vol:	0	73	0		11	59	0		0	0	0		0	0	12	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1124	53		68	276	0		0	0	0		33	0	74	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1124	53		68	276	0		0	0	0		33	0	74	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Final Vol.:	0	1124	53		68	276	0		0	0	0		33	0	74	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	xxxx	6.9	
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	xxxx	3.3	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		1177	xxxx	xxxxx		xxxx	xxxx	xxxxx		1425	xxxx	589	
Potent Cap.:	xxxx	xxxx	xxxxx		601	xxxx	xxxxx		xxxx	xxxx	xxxxx		129	xxxx	457	
Move Cap.:	xxxx	xxxx	xxxxx		601	xxxx	xxxxx		xxxx	xxxx	xxxxx		118	xxxx	457	
Volume/Cap:	xxxx	xxxx	xxxx		0.11	xxxx	xxxx		xxxx	xxxx	xxxx		0.28	xxxx	0.16	
Level Of Service Module:																
Queue:	xxxxx	xxxx	xxxxx		0.4	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Stopped Del:	xxxxx	xxxx	xxxxx		11.8	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		B	*	*		*	*	*		*	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	242	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	2.1	xxxxx	
Shrd StpDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	31.2	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	D	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				31.2			
ApproachLOS:	*				*				*				D			

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.993
Loss Time (sec):	0 (Y+R = 4 sec)	Average Crit Del (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 1	1	0	1 0 1	1	0	1 0 1	1	0
Volume Module:												
Base Vol:	9	925	90	52	329	83	234	811	36	68	461	713
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	925	90	52	329	83	234	811	36	68	461	713
Added Vol:	5	4	0	3	5	0	0	8	7	0	7	23
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	929	90	55	334	83	234	819	43	68	468	736
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	929	90	55	334	83	234	819	43	68	468	736
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	929	90	55	334	83	234	819	43	68	468	736
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	14	929	90	55	334	83	234	819	43	68	468	736
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	1.00	1.90	0.10	1.00	1.00	1.00
Final Sat.:	1500	3000	1500	1500	2403	597	1500	2850	150	1500	1500	1500
Capacity Analysis Module:												
Vol/Sat:	0.01	0.31	0.06	0.04	0.14	0.14	0.16	0.29	0.29	0.05	0.31	0.49
Crit Vol:		464			55			234				736
Crit Moves:		****			****			****				****

City of Los Angeles - Sheldon/Arleta Park
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sheldon St. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.896
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 178 Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	1	0	1	0 2	1	0
Volume Module:																
Base Vol:	225	713	362		19	378	191		170	1184	134		260	1400	74	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	225	713	362		19	378	191		170	1184	134		260	1400	74	
Added Vol:	0	8	8		0	7	5		7	17	0		7	14	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	225	721	370		19	385	196		177	1201	134		267	1414	74	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	225	721	370		19	385	196		177	1201	134		267	1414	74	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	225	721	370		19	385	196		177	1201	134		267	1414	74	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	225	721	370		19	385	196		177	1201	134		267	1414	74	
Saturation Flow Module:																
Sat/Lane:	1425	1425	1425		1425	1425	1425		1425	1425	1425		1425	1425	1425	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.32	0.68		1.00	1.33	0.67		1.00	2.70	0.30		1.00	2.85	0.15	
Final Sat.:	1425	1883	967		1425	1889	961		1425	3846	429		1425	4062	213	
Capacity Analysis Module:																
Vol/Sat:	0.16	0.38	0.38		0.01	0.20	0.20		0.12	0.31	0.31		0.19	0.35	0.35	
Crit Vol:		545				19				445				267		
Crit Moves:		****				****				****				****		

City of Los Angeles - Sheldon/Arleta Park
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Sheldon St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 1.038
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 1	1	0	1 0 1	1	0	1 0 2	0	1
Volume Module:												
Base Vol:	82 1234		607	155	695	203	229 1157		81	157	743	148
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	82 1234		607	155	695	203	229 1157		81	157	743	148
Added Vol:	0	0	0	0	0	25	7	14	5	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82 1234		607	155	695	228	236 1171		86	157	751	148
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	82 1234		607	155	695	228	236 1171		86	157	751	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82 1234		607	155	695	228	236 1171		86	157	751	148
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Final Vol.:	82 1234		607	155	695	228	236 1171		86	157	751	148
Saturation Flow Module:												
Sat/Lane:	1500 1500		1500	1500 1500		1500	1500 1500		1500	1500 1500		1500
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 2.00		1.00	1.00 1.51		0.49	1.00 1.86		0.14	1.00 2.00		1.00
Final Sat.:	1500 3000		1500	1500 2259		741	1500 2795		205	1500 3000		1500
Capacity Analysis Module:												
Vol/Sat:	0.05 0.41		0.40	0.10 0.31		0.31	0.16 0.42		0.42	0.10 0.25		0.10
Crit Vol:	617			155			629			157		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Wicks St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.526
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 30 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1 0	2 0	1		1 0	2 0	1		0 0	1! 0	0		0 0	1! 0	0	
Volume Module:																
Base Vol:	43	1317	14		39	787	44		30	11	33		5	8	40	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	43	1317	14		39	787	44		30	11	33		5	8	40	
Added Vol:	3	0	0		0	0	8		8	0	3		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	46	1317	14		39	787	52		38	11	36		5	8	40	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	46	1317	14		39	787	52		38	11	36		5	8	40	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	46	1317	14		39	787	52		38	11	36		5	8	40	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	46	1317	14		39	787	52		38	11	36		5	8	40	
Saturation Flow Module:																
Sat/Lane:	1500	1500	1500		1500	1500	1500		1500	1500	1500		1500	1500	1500	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.45	0.13	0.42		0.09	0.15	0.76	
Final Sat.:	1500	3000	1500		1500	3000	1500		671	194	635		142	226	1132	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.44	0.01		0.03	0.26	0.03		0.06	0.06	0.06		0.04	0.04	0.04	
Crit Vol:		659				39				38				53		
Crit Moves:		****				****				****				****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Arleta Ave. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.786
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 67 Level Of Service: C

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted						Permitted						Permitted					
Rights:	Include						Include						Include						Include					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	1	0	2	0	1		1	0	2	0	1		1	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	183	614	190				116	221	24				88	1268	187				109	1143	249			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	183	614	190				116	221	24				88	1268	187				109	1143	249			
Added Vol:	0	17	0				5	14	41				50	0	0				0	0	7			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	183	631	190				121	235	65				138	1268	187				109	1143	256			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Volume:	183	631	190				121	235	65				138	1268	187				109	1143	256			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	183	631	190				121	235	65				138	1268	187				109	1143	256			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Final Vol.:	183	631	190				121	235	65				138	1268	187				109	1143	256			
Saturation Flow Module:																								
Sat/Lane:	1500	1500	1500				1500	1500	1500				1500	1500	1500				1500	1500	1500			
Adjustment:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Lanes:	1.00	2.00	1.00				1.00	2.00	1.00				1.00	2.00	1.00				1.00	2.00	1.00			
Final Sat.:	1500	3000	1500				1500	3000	1500				1500	3000	1500				1500	3000	1500			
Capacity Analysis Module:																								
Vol/Sat:	0.12	0.21	0.13				0.08	0.08	0.04				0.09	0.42	0.12				0.07	0.38	0.17			
Crit Vol:		316						121						634						109				
Crit Moves:		****						****						****						****				

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Roscoe Blvd & SR-170 SB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.781
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 104 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	138	0	304	0	1480	0	0	1520	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	138	0	304	0	1480	0	0	1520	0
Added Vol:	0	0	0	17	0	0	0	25	0	0	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	155	0	304	0	1505	0	0	1540	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	155	0	304	0	1505	0	0	1540	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	155	0	304	0	1505	0	0	1540	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	155	0	304	0	1505	0	0	1540	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.22	0.00	0.55	0.00	0.00	0.56	0.00
Crit Vol:	0					304	0				770	
Crit Moves:						****	****				****	

City of Los Angeles - Sheldon/Arleta Park
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 Sheldon St. & SR-170 NB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.574
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 53 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0 0	0	0	0	1 0	0	0	1	0 0	2	0	0	0 0	2	0	0
Volume Module:																
Base Vol:	0	0	0	264	0	313	0		867	0	0		869	0		
Growth Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Initial Bse:	0	0	0	264	0	313	0		867	0	0		869	0		
Added Vol:	0	0	0	0	0	25	0		26	0	0		33	0		
PasserByVol:	0	0	0	0	0	0	0		0	0	0		0	0		
Initial Fut:	0	0	0	264	0	338	0		893	0	0		902	0		
User Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Volume:	0	0	0	264	0	338	0		893	0	0		902	0		
Reduct Vol:	0	0	0	0	0	0	0		0	0	0		0	0		
Reduced Vol:	0	0	0	264	0	338	0		893	0	0		902	0		
PCE Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
MLF Adj:	1.00 1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Final Vol.:	0	0	0	264	0	338	0		893	0	0		902	0		
Saturation Flow Module:																
Sat/Lane:	1375 1375	1375		1375	1375	1375	1375		1375	1375	1375		1375	1375		
Adjustment:	1.00 1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Lanes:	0.00 0.00	0.00		1.00	0.00	1.00	0.00		2.00	0.00	0.00		2.00	0.00		
Final Sat.:	0	0	0	1375	0	1375	0		2750	0	0		2750	0		
Capacity Analysis Module:																
Vol/Sat:	0.00 0.00	0.00		0.19	0.00	0.25	0.00		0.32	0.00	0.00		0.33	0.00		
Crit Vol:	0					338	0						451			
Crit Moves:						****	****						****			

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday without proejct

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[11.1]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 1	1	0	1	0 2	0	0	0	0 0	0	0	0	0 1!	0	0
Volume Module:																
Base Vol:	0	389	23		25	273	0		0	0	0		11	0	21	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	389	23		25	273	0		0	0	0		11	0	21	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	389	23		25	273	0		0	0	0		11	0	21	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Final Vol.:	0	389	23		25	273	0		0	0	0		11	0	21	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	xxxx	6.9	
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	xxxx	3.3	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		412	xxxx	xxxxx		xxxx	xxxx	xxxxx		587	xxxx	206	
Potent Cap.:	xxxx	xxxx	xxxxx		1158	xxxx	xxxxx		xxxx	xxxx	xxxxx		445	xxxx	807	
Move Cap.:	xxxx	xxxx	xxxxx		1158	xxxx	xxxxx		xxxx	xxxx	xxxxx		438	xxxx	807	
Volume/Cap:	xxxx	xxxx	xxxx		0.02	xxxx	xxxx		xxxx	xxxx	xxxx		0.03	xxxx	0.03	
Level Of Service Module:																
Queue:	xxxxx	xxxx	xxxxx		0.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Stopped Del:	xxxxx	xxxx	xxxxx		8.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		A	*	*		*	*	*		*	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	626	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	0.2	xxxxx	
Shrd StpDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	11.1	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	B	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				11.1			
ApproachLOS:	*				*				*				B			

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Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.479
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 1	1	0	1 0 1	1	0	1 0 1	1	0
Volume Module:												
Base Vol:	6 280		73	77 223		122	99 313		17	28 287		403
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	6 280		73	77 223		122	99 313		17	28 287		403
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	6 280		73	77 223		122	99 313		17	28 287		403
Reduct Vol:	0 0		0	0 0		0	0 0		0	0 0		0
Reduced Vol:	6 280		73	77 223		122	99 313		17	28 287		403
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Final Vol.:	6 280		73	77 223		122	99 313		17	28 287		403
Saturation Flow Module:												
Sat/Lane:	1500 1500		1500	1500 1500		1500	1500 1500		1500	1500 1500		1500
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 2.00		1.00	1.00 1.29		0.71	1.00 1.90		0.10	1.00 1.00		1.00
Final Sat.:	1500 3000		1500	1500 1939		1061	1500 2845		155	1500 1500		1500
Capacity Analysis Module:												
Vol/Sat:	0.00 0.09		0.05	0.05 0.12		0.11	0.07 0.11		0.11	0.02 0.19		0.27
Crit Vol:	140			77			99					403
Crit Moves:	****			****			****					****

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Intersection #3 Sheldon St. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.765
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 79 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	1	0	1	0 2	1	0
Volume Module:																
Base Vol:	170	271	289		15	220	67		64	1344	117		289	1539	22	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	170	271	289		15	220	67		64	1344	117		289	1539	22	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	170	271	289		15	220	67		64	1344	117		289	1539	22	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	170	271	289		15	220	67		64	1344	117		289	1539	22	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	170	271	289		15	220	67		64	1344	117		289	1539	22	
Saturation Flow Module:																
Sat/Lane:	1425	1425	1425		1425	1425	1425		1425	1425	1425		1425	1425	1425	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	1.53	0.47		1.00	2.76	0.24		1.00	2.96	0.04	
Final Sat.:	1425	1425	1425		1425	2185	665		1425	3933	342		1425	4215	60	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.19	0.20		0.01	0.10	0.10		0.04	0.34	0.34		0.20	0.37	0.37	
Crit Vol:	170					143				487			289			
Crit Moves:	****					****				****			****			

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Intersection #4 Sheldon St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.648
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 1	1	0	1 0 1	1	0	1 0 2	0	1
Volume Module:												
Base Vol:	147	307	98	107	373	172	55	585	282	119	590	133
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	307	98	107	373	172	55	585	282	119	590	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	307	98	107	373	172	55	585	282	119	590	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	307	98	107	373	172	55	585	282	119	590	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	147	307	98	107	373	172	55	585	282	119	590	133
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.37	0.63	1.00	1.35	0.65	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	2053	947	1500	2024	976	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.07	0.07	0.18	0.18	0.04	0.29	0.29	0.08	0.20	0.09
Crit Vol:	147			272			434			119		
Crit Moves:	****			****			****			****		

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Intersection #5 Wicks St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.343
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	803	7	34	802	43	40	7	21	7	1	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	803	7	34	802	43	40	7	21	7	1	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	803	7	34	802	43	40	7	21	7	1	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	803	7	34	802	43	40	7	21	7	1	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	23	803	7	34	802	43	40	7	21	7	1	42
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.59	0.10	0.31	0.14	0.02	0.84
Final Sat.:	1500	3000	1500	1500	3000	1500	882	154	463	210	30	1260
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.00	0.02	0.27	0.03	0.05	0.05	0.05	0.03	0.03	0.03
Crit Vol:	23			401			40			50		
Crit Moves:	****			****			****			****		

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Intersection #6 Arleta Ave. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.539
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 1			1 0 2 0 1			1 0 2 0 1			1 0 2 0 1		
Volume Module:												
Base Vol:	198	227	123	133	128	26	67	896	175	75	958	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	227	123	133	128	26	67	896	175	75	958	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	227	123	133	128	26	67	896	175	75	958	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	227	123	133	128	26	67	896	175	75	958	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	198	227	123	133	128	26	67	896	175	75	958	164
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	3000	1500	1500	3000	1500	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.08	0.09	0.04	0.02	0.04	0.30	0.12	0.05	0.32	0.11
Crit Vol:	198			64			67			479		
Crit Moves:	****			****			****			****		

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Intersection #7 Roscoe Blvd & SR-170 SB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.831
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 135 Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0 0	1	0	0	0 1	0	0	2	0 0	0	0	2	0 0
Volume Module:																
Base Vol:	0	0	0	247	0	323	0	1640	0	0	1470	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	247	0	323	0	1640	0	0	1470	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	247	0	323	0	1640	0	0	1470	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	247	0	323	0	1640	0	0	1470	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Final Vol.:	0	0	0	247	0	323	0	1640	0	0	1470	0				
Saturation Flow Module:																
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00				
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.23	0.00	0.60	0.00	0.00	0.53	0.00				
Crit Vol:	0					323		820		0						
Crit Moves:						****		****		****						

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Intersection #8 Sheldon St. & SR-170 NB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.348
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	167	0	94	0	488	0	0	624	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	167	0	94	0	488	0	0	624	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	167	0	94	0	488	0	0	624	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	167	0	94	0	488	0	0	624	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	167	0	94	0	488	0	0	624	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.07	0.00	0.18	0.00	0.00	0.23	0.00
Crit Vol:		0		167			0			312		
Crit Moves:				****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM without project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Average Delay (sec/veh): 2.1 Worst Case Level Of Service: D[25.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		0 0 1!	0 0	
Volume Module:												
Base Vol:	0 1051	53		57 217	0		0 0	0		33	0	62
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	0 1051	53		57 217	0		0 0	0		33	0	62
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	0 1051	53		57 217	0		0 0	0		33	0	62
Reduct Vol:	0 0	0		0 0	0		0 0	0		0	0	0
Final Vol.:	0 1051	53		57 217	0		0 0	0		33	0	62
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx			4.1 xxxx xxxxx	xxxxx		xxxx xxxxx			6.8 xxxx		6.9
FollowUpTim:	xxxxx xxxx xxxxx			2.2 xxxx xxxxx	xxxxx		xxxx xxxxx			3.5 xxxx		3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx			1104 xxxx xxxxx	xxxx		xxxx xxxxx			1300 xxxx		552
Potent Cap.:	xxxx xxxx xxxxx			640 xxxx xxxxx	xxxx		xxxx xxxxx			155 xxxx		483
Move Cap.:	xxxx xxxx xxxxx			640 xxxx xxxxx	xxxx		xxxx xxxxx			145 xxxx		483
Volume/Cap:	xxxx xxxx xxxx			0.09 xxxx xxxx			xxxx xxxx xxxx			0.23 xxxx		0.13
Level Of Service Module:												
Queue:	xxxxx xxxx xxxxx			0.3 xxxx xxxxx	xxxxx		xxxx xxxxx	xxxxx		xxxx xxxxx		
Stopped Del:	xxxxx xxxx xxxxx			11.2 xxxx xxxxx	xxxxx		xxxx xxxxx	xxxxx		xxxx xxxxx		
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx 267 xxxxx		
SharedQueue:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx 1.5 xxxxx		
Shrd StpDel:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx 25.8 xxxxx		
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			25.8		
ApproachLOS:	*			*			*			D		

City of Los Angeles - Sheldon/Arleta Park
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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.974
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	9	925	90	52	329	83	234	811	36	68	461	713
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	925	90	52	329	83	234	811	36	68	461	713
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	925	90	52	329	83	234	811	36	68	461	713
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	925	90	52	329	83	234	811	36	68	461	713
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	9	925	90	52	329	83	234	811	36	68	461	713
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	1.00	1.91	0.09	1.00	1.00	1.00
Final Sat.:	1500	3000	1500	1500	2396	604	1500	2872	128	1500	1500	1500
Capacity Analysis Module:												
Vol/Sat:	0.01	0.31	0.06	0.03	0.14	0.14	0.16	0.28	0.28	0.05	0.31	0.48
Crit Vol:		463			52			234				713
Crit Moves:		****			****			****				****

City of Los Angeles - Sheldon/Arleta Park
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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sheldon St. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.881
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 157 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	225	713	362	19	378	191	170	1184	134	260	1400	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	225	713	362	19	378	191	170	1184	134	260	1400	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	225	713	362	19	378	191	170	1184	134	260	1400	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	713	362	19	378	191	170	1184	134	260	1400	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	225	713	362	19	378	191	170	1184	134	260	1400	74
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.33	0.67	1.00	1.33	0.67	1.00	2.69	0.31	1.00	2.85	0.15
Final Sat.:	1425	1890	960	1425	1893	957	1425	3840	435	1425	4060	215
Capacity Analysis Module:												
Vol/Sat:	0.16	0.38	0.38	0.01	0.20	0.20	0.12	0.31	0.31	0.18	0.34	0.34
Crit Vol:		537			19			439			260	
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 Sheldon St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 1.032
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	82	1234	607	155	695	203	229	1157	81	157	743	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	1234	607	155	695	203	229	1157	81	157	743	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	82	1234	607	155	695	203	229	1157	81	157	743	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	1234	607	155	695	203	229	1157	81	157	743	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	82	1234	607	155	695	203	229	1157	81	157	743	148
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.55	0.45	1.00	1.87	0.13	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	2322	678	1500	2804	196	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.05	0.41	0.40	0.10	0.30	0.30	0.15	0.41	0.41	0.10	0.25	0.10
Crit Vol:		617			155			619			157	
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Wicks St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.520
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 30 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	43	1317	14	39	787	44	30	11	33	5	8	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	1317	14	39	787	44	30	11	33	5	8	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	1317	14	39	787	44	30	11	33	5	8	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1317	14	39	787	44	30	11	33	5	8	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	43	1317	14	39	787	44	30	11	33	5	8	40
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.40	0.15	0.45	0.09	0.15	0.76
Final Sat.:	1500	3000	1500	1500	3000	1500	608	223	669	142	226	1132
Capacity Analysis Module:												
Vol/Sat:	0.03	0.44	0.01	0.03	0.26	0.03	0.05	0.05	0.05	0.04	0.04	0.04
Crit Vol:		659			39			30			53	
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #6 Arleta Ave. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.777
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 65 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 2	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	183	614	190		116	221	24		88	1268	187		109	1143	249	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	183	614	190		116	221	24		88	1268	187		109	1143	249	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	183	614	190		116	221	24		88	1268	187		109	1143	249	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	183	614	190		116	221	24		88	1268	187		109	1143	249	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	183	614	190		116	221	24		88	1268	187		109	1143	249	
Saturation Flow Module:																
Sat/Lane:	1500	1500	1500		1500	1500	1500		1500	1500	1500		1500	1500	1500	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1500	3000	1500		1500	3000	1500		1500	3000	1500		1500	3000	1500	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.20	0.13		0.08	0.07	0.02		0.06	0.42	0.12		0.07	0.38	0.17	
Crit Vol:		307				116				634				109		
Crit Moves:		****				****				****				****		

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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Roscoe Blvd & SR-170 SB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.774
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 101 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	138	0	304	0	1480	0	0	1520	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	138	0	304	0	1480	0	0	1520	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	138	0	304	0	1480	0	0	1520	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	138	0	304	0	1480	0	0	1520	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	138	0	304	0	1480	0	0	1520	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.10	0.00	0.22	0.00	0.54	0.00	0.00	0.55	0.00
Crit Vol:	0					304	0				760	
Crit Moves:						****	****				****	

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Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 Sheldon St. & SR-170 NB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.544
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	0	0	0	0	0		1	0	0	0	1		0	0	2	0	0		0	0	2	0	0	
Volume Module:																								
Base Vol:	0	0	0				264	0	313				0	867	0				0	869	0			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	0	0	0				264	0	313				0	867	0				0	869	0			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Volume:	0	0	0				264	0	313				0	867	0				0	869	0			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	0	0	0				264	0	313				0	867	0				0	869	0			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Final Vol.:	0	0	0				264	0	313				0	867	0				0	869	0			
Saturation Flow Module:																								
Sat/Lane:	1375	1375	1375				1375	1375	1375				1375	1375	1375				1375	1375	1375			
Adjustment:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Lanes:	0.00	0.00	0.00				1.00	0.00	1.00				0.00	2.00	0.00				0.00	2.00	0.00			
Final Sat.:	0	0	0				1375	0	1375				0	2750	0				0	2750	0			
Capacity Analysis Module:																								
Vol/Sat:	0.00	0.00	0.00				0.19	0.00	0.23				0.00	0.32	0.00				0.00	0.32	0.00			
Crit Vol:	0								313				0							435				
Crit Moves:									****				****							****				

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[10.4]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1	1 0	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	301		23	25	223		0	0		0	0	11		0	21
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	301		23	25	223		0	0		0	0	11		0	21
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	301		23	25	223		0	0		0	0	11		0	21
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Final Vol.:	0	301		23	25	223		0	0		0	0	11		0	21
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9				
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	324	xxxx	xxxxx	xxxx	xxxx	xxxxx	474	xxxx	162				
Potent Cap.:	xxxx	xxxx	xxxxx	1247	xxxx	xxxxx	xxxx	xxxx	xxxxx	524	xxxx	861				
Move Cap.:	xxxx	xxxx	xxxxx	1247	xxxx	xxxxx	xxxx	xxxx	xxxxx	516	xxxx	861				
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.02				

Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	700	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.4	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.4		
ApproachLOS:	*			*			*			B		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.463
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 27 Level Of Service: A

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	6	266	61	73	206	120	97	297	17	11	269	392
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	266	61	73	206	120	97	297	17	11	269	392
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	266	61	73	206	120	97	297	17	11	269	392
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	266	61	73	206	120	97	297	17	11	269	392
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	6	266	61	73	206	120	97	297	17	11	269	392
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.26	0.74	1.00	1.89	0.11	1.00	1.00	1.00
Final Sat.:	1500	3000	1500	1500	1896	1104	1500	2838	162	1500	1500	1500
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.04	0.05	0.11	0.11	0.06	0.10	0.10	0.01	0.18	0.26
Crit Vol:		133			73			97				392
Crit Moves:		****			****			****				****

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sheldon St. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.739
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 71 Level Of Service: C

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	T	R	L	T	R	L	T	R		L	T	R	
Control:	Permitted			Permitted			Protected				Protected			
Rights:	Include			Include			Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0	2	1	0	1 0 2 1 0
Volume Module:														
Base Vol:	167	260	282	15	209	60	59	1307	115		282	1503	22	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	167	260	282	15	209	60	59	1307	115		282	1503	22	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	167	260	282	15	209	60	59	1307	115		282	1503	22	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Reduced Vol:	167	260	282	15	209	60	59	1307	115		282	1503	22	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	167	260	282	15	209	60	59	1307	115		282	1503	22	
Saturation Flow Module:														
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425		1425	1425	1425	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00	1.00	1.55	0.45	1.00	2.76	0.24		1.00	2.96	0.04	
Final Sat.:	1425	1425	1425	1425	2214	636	1425	3929	346		1425	4213	62	
Capacity Analysis Module:														
Vol/Sat:	0.12	0.18	0.20	0.01	0.09	0.09	0.04	0.33	0.33		0.20	0.36	0.36	
Crit Vol:			282	15				474			282			
Crit Moves:			****	****				****			****			

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 Sheldon St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.601
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	144	240	92	73	305	152	38	567	276	108	565	124
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	240	92	73	305	152	38	567	276	108	565	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	144	240	92	73	305	152	38	567	276	108	565	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	240	92	73	305	152	38	567	276	108	565	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	144	240	92	73	305	152	38	567	276	108	565	124
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.33	0.67	1.00	1.35	0.65	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	2002	998	1500	2018	982	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.06	0.05	0.15	0.15	0.03	0.28	0.28	0.07	0.19	0.08
Crit Vol:	144			229			422			108		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Wicks St. & Laurel Canyon Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.322
Loss Time (sec):	0 (Y+R = 4 sec)	Average Crit Del (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 2	0	1	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	23 750		7	33 743		42	39		7	21		1 41
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	23 750		7	33 743		42	39		7	21		1 41
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	23 750		7	33 743		42	39		7	21		1 41
Reduct Vol:	0 0		0	0 0		0	0		0	0		0 0
Reduced Vol:	23 750		7	33 743		42	39		7	21		1 41
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Final Vol.:	23 750		7	33 743		42	39		7	21		1 41
Saturation Flow Module:												
Sat/Lane:	1500 1500		1500	1500 1500		1500	1500 1500		1500	1500 1500		1500
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 2.00		1.00	1.00 2.00		1.00	0.59 0.10		0.31	0.14 0.02		0.84
Final Sat.:	1500 3000		1500	1500 3000		1500	873 157		470	214 31		1255
Capacity Analysis Module:												
Vol/Sat:	0.02 0.25		0.00	0.02 0.25		0.03	0.04 0.04		0.04	0.03 0.03		0.03
Crit Vol:	23			372			39			49		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #6 Arleta Ave. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.508
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	194	195	121	109	109	15	47	878	172	74	939	123
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	195	121	109	109	15	47	878	172	74	939	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	194	195	121	109	109	15	47	878	172	74	939	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	195	121	109	109	15	47	878	172	74	939	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	194	195	121	109	109	15	47	878	172	74	939	123
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	3000	1500	1500	3000	1500	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.13	0.07	0.08	0.07	0.04	0.01	0.03	0.29	0.11	0.05	0.31	0.08
Crit Vol:	194			55			439			74		
Crit Moves:	****			****			****			****		

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Roscoe Blvd & SR-170 SB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.811
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 121 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	1 0	0	0 1	0 0	2	0 0	0 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	241	0	317	0	1596	0	0	1434	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	241	0	317	0	1596	0	0	1434	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	241	0	317	0	1596	0	0	1434	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	241	0	317	0	1596	0	0	1434	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	241	0	317	0	1596	0	0	1434	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.23	0.00	0.58	0.00	0.00	0.52	0.00
Crit Vol:	0					317		798		0		
Crit Moves:						****		****		****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 Sheldon St. & SR-170 NB off-ramp

Cycle (sec):	100	Critical Vol./Cap. (X):	0.335
Loss Time (sec):	0 (Y+R = 4 sec)	Average Crit Del (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	1 0	0	0 1	0 0	2	0 0	0 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	164	0	91	0	455	0	0	594	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	164	0	91	0	455	0	0	594	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	164	0	91	0	455	0	0	594	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	164	0	91	0	455	0	0	594	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	164	0	91	0	455	0	0	594	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.07	0.00	0.17	0.00	0.00	0.22	0.00
Crit Vol:		0		164			0			297		
Crit Moves:				****			****			****		

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Average Delay (sec/veh): 1.9 Worst Case Level Of Service: C[24.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		0 0 1!	0 0	
Volume Module:												
Base Vol:	0	978	52	56	328	0	0	0	0	32	0	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	978	52	56	328	0	0	0	0	32	0	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	978	52	56	328	0	0	0	0	32	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	978	52	56	328	0	0	0	0	32	0	61
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1030	xxxx	xxxxx	xxxx	xxxx	xxxxx	1280	xxxx	515
Potent Cap.:	xxxx	xxxx	xxxxx	682	xxxx	xxxxx	xxxx	xxxx	xxxxx	160	xxxx	510
Move Cap.:	xxxx	xxxx	xxxxx	682	xxxx	xxxxx	xxxx	xxxx	xxxxx	150	xxxx	510
Volume/Cap:	xxxx	xxxx	xxxx	0.08	xxxx	xxxx	xxxx	xxxx	xxxx	0.21	xxxx	0.12
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	280	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.4	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	24.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			24.2		
ApproachLOS:	*			*			*			C		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.957
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	9	921	81	49	313	81	229	785	35	57	430	697
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	921	81	49	313	81	229	785	35	57	430	697
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	921	81	49	313	81	229	785	35	57	430	697
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	921	81	49	313	81	229	785	35	57	430	697
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	9	921	81	49	313	81	229	785	35	57	430	697
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.59	0.41	1.00	1.91	0.09	1.00	1.00	1.00
Final Sat.:	1500	3000	1500	1500	2383	617	1500	2872	128	1500	1500	1500
Capacity Analysis Module:												
Vol/Sat:	0.01	0.31	0.05	0.03	0.13	0.13	0.15	0.27	0.27	0.04	0.29	0.46
Crit Vol:		461			49			229				697
Crit Moves:		****			****			****				****

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sheldon St. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.861
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 134 Level Of Service: D

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	T	R	L	T	R	L	T	R		L	T	R	
Control:	Permitted			Permitted			Protected				Protected			
Rights:	Include			Include			Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	1	0	1	0 2 1 0
Volume Module:														
Base Vol:	221	694	354	19	359	176	163	1153	131		256	1381	73	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	221	694	354	19	359	176	163	1153	131		256	1381	73	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	221	694	354	19	359	176	163	1153	131		256	1381	73	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Reduced Vol:	221	694	354	19	359	176	163	1153	131		256	1381	73	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	221	694	354	19	359	176	163	1153	131		256	1381	73	
Saturation Flow Module:														
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425		1425	1425	1425	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.32	0.68	1.00	1.34	0.66	1.00	2.69	0.31		1.00	2.85	0.15	
Final Sat.:	1425	1887	963	1425	1912	938	1425	3839	436		1425	4060	215	
Capacity Analysis Module:														
Vol/Sat:	0.16	0.37	0.37	0.01	0.19	0.19	0.11	0.30	0.30		0.18	0.34	0.34	
Crit Vol:	524			19			428				256			
Crit Moves:	****			****			****				****			

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 Sheldon St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.959
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	80	1165	588	125	619	185	215	1126	79	128	706	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	1165	588	125	619	185	215	1126	79	128	706	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	1165	588	125	619	185	215	1126	79	128	706	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	1165	588	125	619	185	215	1126	79	128	706	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	80	1165	588	125	619	185	215	1126	79	128	706	140
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.54	0.46	1.00	1.87	0.13	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	2310	690	1500	2803	197	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.05	0.39	0.39	0.08	0.27	0.27	0.14	0.40	0.40	0.09	0.24	0.09
Crit Vol:		583			125			603			128	
Crit Moves:		****			****			****			****	

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Wicks St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.499
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	42	1259	14	38	705	43	29	11	32	5	8	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	1259	14	38	705	43	29	11	32	5	8	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	1259	14	38	705	43	29	11	32	5	8	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	1259	14	38	705	43	29	11	32	5	8	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	42	1259	14	38	705	43	29	11	32	5	8	39
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.40	0.15	0.45	0.10	0.15	0.75
Final Sat.:	1500	3000	1500	1500	3000	1500	604	229	667	144	231	1125
Capacity Analysis Module:												
Vol/Sat:	0.03	0.42	0.01	0.03	0.24	0.03	0.05	0.05	0.05	0.03	0.03	0.03
Crit Vol:		630			38			29			52	
Crit Moves:		****			****			****			****	

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #6 Arleta Ave. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.754
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 59 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	179	579	186	113	218	24	88	1243	183	107	1121	210
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	179	579	186	113	218	24	88	1243	183	107	1121	210
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	579	186	113	218	24	88	1243	183	107	1121	210
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	579	186	113	218	24	88	1243	183	107	1121	210
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	179	579	186	113	218	24	88	1243	183	107	1121	210
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	3000	1500	1500	3000	1500	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.12	0.19	0.12	0.08	0.07	0.02	0.06	0.41	0.12	0.07	0.37	0.14
Crit Vol:		290			113			622			107	
Crit Moves:		****			****			****			****	

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Roscoe Blvd & SR-170 SB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.762
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 96 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	136	0	298	0	1442	0	0	1500	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	298	0	1442	0	0	1500	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	136	0	298	0	1442	0	0	1500	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	136	0	298	0	1442	0	0	1500	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	136	0	298	0	1442	0	0	1500	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.10	0.00	0.22	0.00	0.52	0.00	0.00	0.55	0.00
Crit Vol:	0					298	0				750	
Crit Moves:						****	****				****	

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 Sheldon St. & SR-170 NB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.526
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	1 0	0 0	1	0 0	2 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	259	0	310	0	831	0	0	826	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	259	0	310	0	831	0	0	826	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	259	0	310	0	831	0	0	826	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	259	0	310	0	831	0	0	826	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	259	0	310	0	831	0	0	826	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.19	0.00	0.23	0.00	0.30	0.00	0.00	0.30	0.00
Crit Vol:	0					310	0				413	
Crit Moves:						****	****				****	

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[11.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		0 0 1!	0 0	
Volume Module:												
Base Vol:	0	389	23	25	273	0	0	0	0	11	0	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	389	23	25	273	0	0	0	0	11	0	21
Added Vol:	0	75	0	14	75	0	0	0	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	464	23	39	348	0	0	0	0	11	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	464	23	39	348	0	0	0	0	11	0	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	464	23	39	348	0	0	0	0	11	0	33
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	487	xxxx	xxxxx	xxxx	xxxx	xxxxx	728	xxxx	244
Potent Cap.:	xxxx	xxxx	xxxxx	1086	xxxx	xxxxx	xxxx	xxxx	xxxxx	363	xxxx	763
Move Cap.:	xxxx	xxxx	xxxxx	1086	xxxx	xxxxx	xxxx	xxxx	xxxxx	353	xxxx	763
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	0.04
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	592	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.6	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			11.6		
ApproachLOS:	*			*			*			B		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.502
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	6	280	73	77	223	122	99	313	17	28	287	403
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	280	73	77	223	122	99	313	17	28	287	403
Added Vol:	7	5	0	3	5	0	0	9	7	0	9	29
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	285	73	80	228	122	99	322	24	28	296	432
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	285	73	80	228	122	99	322	24	28	296	432
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	285	73	80	228	122	99	322	24	28	296	432
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	13	285	73	80	228	122	99	322	24	28	296	432
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.30	0.70	1.00	1.86	0.14	1.00	1.00	1.00
Final Sat.:	1500	3000	1500	1500	1954	1046	1500	2792	208	1500	1500	1500
Capacity Analysis Module:												
Vol/Sat:	0.01	0.10	0.05	0.05	0.12	0.12	0.07	0.12	0.12	0.02	0.20	0.29
Crit Vol:		143			80			99				432
Crit Moves:		****			****			****				****

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sheldon St. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.780
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 85 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	170	271	289	15	220	67	64	1344	117	289	1539	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	271	289	15	220	67	64	1344	117	289	1539	22
Added Vol:	0	9	9	0	9	7	7	17	0	9	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	280	298	15	229	74	71	1361	117	298	1556	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	170	280	298	15	229	74	71	1361	117	298	1556	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	280	298	15	229	74	71	1361	117	298	1556	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	170	280	298	15	229	74	71	1361	117	298	1556	22
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.51	0.49	1.00	2.76	0.24	1.00	2.96	0.04
Final Sat.:	1425	1425	1425	1425	2154	696	1425	3937	338	1425	4215	60
Capacity Analysis Module:												
Vol/Sat:	0.12	0.20	0.21	0.01	0.11	0.11	0.05	0.35	0.35	0.21	0.37	0.37
Crit Vol:	170			151			493			298		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Sheldon St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.665
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 43 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	147	307	98	107	373	172	55	585	282	119	590	133
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	307	98	107	373	172	55	585	282	119	590	133
Added Vol:	0	0	0	0	0	26	9	17	7	0	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	307	98	107	373	198	64	602	289	119	599	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	307	98	107	373	198	64	602	289	119	599	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	307	98	107	373	198	64	602	289	119	599	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	147	307	98	107	373	198	64	602	289	119	599	133
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.31	0.69	1.00	1.35	0.65	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	1960	1040	1500	2027	973	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.07	0.07	0.19	0.19	0.04	0.30	0.30	0.08	0.20	0.09
Crit Vol:	147			285			445			119		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Wicks St. & Laurel Canyon Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.351
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	23	803	7	34	802	43	40	7	21	7	1	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	803	7	34	802	43	40	7	21	7	1	42
Added Vol:	3	0	0	0	0	9	10	0	3	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	803	7	34	802	52	50	7	24	7	1	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	803	7	34	802	52	50	7	24	7	1	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	803	7	34	802	52	50	7	24	7	1	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	26	803	7	34	802	52	50	7	24	7	1	42
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.62	0.09	0.29	0.14	0.02	0.84
Final Sat.:	1500	3000	1500	1500	3000	1500	926	130	444	210	30	1260
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.00	0.02	0.27	0.03	0.05	0.05	0.05	0.03	0.03	0.03
Crit Vol:	26			401			50			50		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Arleta Ave. & Roscoe Blvd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.578
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 1			1 0 2 0 1			1 0 2 0 1			1 0 2 0 1		
Volume Module:												
Base Vol:	198	227	123	133	128	26	67	896	175	75	958	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	227	123	133	128	26	67	896	175	75	958	164
Added Vol:	0	17	0	7	17	51	51	0	0	0	0	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	198	244	123	140	145	77	118	896	175	75	958	171
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	244	123	140	145	77	118	896	175	75	958	171
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	244	123	140	145	77	118	896	175	75	958	171
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	198	244	123	140	145	77	118	896	175	75	958	171
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1500	3000	1500	1500	3000	1500	1500	3000	1500	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.08	0.09	0.05	0.05	0.08	0.30	0.12	0.05	0.32	0.11
Crit Vol:	198			73			118			479		
Crit Moves:	****			****			****			****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Roscoe Blvd & SR-170 SB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.841
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 143 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	247	0	323	0	1640	0	0	1470	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	247	0	323	0	1640	0	0	1470	0
Added Vol:	0	0	0	17	0	0	0	26	0	0	26	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	264	0	323	0	1666	0	0	1496	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	264	0	323	0	1666	0	0	1496	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	264	0	323	0	1666	0	0	1496	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	264	0	323	0	1666	0	0	1496	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.19	0.00	0.23	0.00	0.61	0.00	0.00	0.54	0.00
Crit Vol:	0					323		833		0		
Crit Moves:						****		****		****		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 Sheldon St. & SR-170 NB off-ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.361
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	167	0	94	0	488	0	0	624	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	167	0	94	0	488	0	0	624	0
Added Vol:	0	0	0	0	0	26	0	32	0	0	34	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	167	0	120	0	520	0	0	658	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	167	0	120	0	520	0	0	658	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	167	0	120	0	520	0	0	658	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	167	0	120	0	520	0	0	658	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	1375	0	1375	0	2750	0	0	2750	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.09	0.00	0.19	0.00	0.00	0.24	0.00
Crit Vol:				167			0				329	
Crit Moves:				****			****				****	

Appendix C
QUEUING ANALYSIS WORKING SHEETS

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #202 Arleta Ave. Entrance

****

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: F[57.0]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1	0	1 0 2	0	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0 1113	0		0 437	0		0 0 0	0	0	0 0 0	0	0
Growth Adj:	1.00 1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
Initial Bse:	0 1113	0		0 437	0		0 0 0	0	0	0 0 0	0	0
Added Vol:	0 0	84	12	0	0	0	0 0 0	0	0	70 0	0	9
PasserByVol:	0 0	0	0	0	0	0	0 0 0	0	0	0 0	0	0
Initial Fut:	0 1113	84	12	437	0	0	0 0 0	0	0	70 0	0	9
User Adj:	1.00 1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Adj:	1.00 1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Volume:	0 1113	84	12	437	0	0	0 0 0	0	0	70 0	0	9
Reduct Vol:	0 0	0	0	0	0	0	0 0 0	0	0	0 0	0	0
Final Vol.:	0 1113	84	12	437	0	0	0 0 0	0	0	70 0	0	9
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx	4.1	xxxx	xxxxx xxxxx	xxxx	xxxxx	6.8	xxxx	6.9			
FollowUpTim:	xxxxx xxxx xxxxx	2.2	xxxx	xxxxx xxxxx	xxxx	xxxxx	3.5	xxxx	3.3			
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	1197	xxxx	xxxxx	xxxx	xxxx xxxxx	1398	xxxx	599			
Potent Cap.:	xxxx xxxx xxxxx	590	xxxx	xxxxx	xxxx	xxxx xxxxx	134	xxxx	450			
Move Cap.:	xxxx xxxx xxxxx	590	xxxx	xxxxx	xxxx	xxxx xxxxx	132	xxxx	450			
Volume/Cap:	xxxx xxxx xxxx	0.02	xxxx	xxxx	xxxx	xxxx xxxx	0.53	xxxx	0.02			
Level Of Service Module:												
Queue:	xxxxx xxxx xxxxx	0.1	xxxx	xxxxx xxxxx	xxxx	xxxxx xxxxx	xxxx	xxxx	xxxxx			
Stopped Del:	xxxxx xxxx xxxxx	11.2	xxxx	xxxxx xxxxx	xxxx	xxxxx xxxxx	xxxx	xxxx	xxxxx			
LOS by Move:	* * *	B	*	* *	*	* *	*	*	*			
Movement:	LT - LTR - RT	LT - LTR - RT		LT - LTR - RT			LT - LTR - RT					
Shared Cap.:	xxxx xxxx xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx xxxxx	xxxx	144	xxxxx			
SharedQueue:	xxxxx xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	2.7	xxxxx			
Shrd StpDel:	xxxxx xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	57.0	xxxxx			
Shared LOS:	* * *	*	*	*	*	* *	*	F	*			
ApproachDel:	xxxxxx	xxxxxx		xxxxxx			57.0					
ApproachLOS:	*	*		*			F					

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #201 Sheldon St. Entrance

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: C[16.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	0	0	0		0	0	1	1	0		1	0	2	0	0	
Volume Module:																								
Base Vol:	0		0		0		0		0		0		0		488		0		0		624		0	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	0		0		0		0		0		0		0		488		0		0		624		0	
Added Vol:	37		0		32		0		0		0		0		0		12		60		0		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	37		0		32		0		0		0		0		488		12		60		624		0	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	37		0		32		0		0		0		0		488		12		60		624		0	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Final Vol.:	37		0		32		0		0		0		0		488		12		60		624		0	
Critical Gap Module:																								
Critical Gp:	6.8	xxxx		6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx										
FollowUpTim:	3.5	xxxx		3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx										
Capacity Module:																								
Cnflict Vol:	926	xxxx		250	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		500	xxxx	xxxxx										
Potent Cap.:	271	xxxx		756	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		1075	xxxx	xxxxx										
Move Cap.:	260	xxxx		756	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		1075	xxxx	xxxxx										
Volume/Cap:	0.14	xxxx		0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx		0.06	xxxx	xxxx										
Level Of Service Module:																								
Queue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		0.2	xxxx	xxxxx										
Stopped Del:	xxxxx	xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		8.5	xxxx	xxxxx										
LOS by Move:	*	*		*	*	*	*	*	*	*		A	*	*										
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx		373	xxxxx			xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx		0.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Shrd StpDel:	xxxxx		16.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Shared LOS:	*		C	*	*	*	*	*	*	*			*	*	*				*	*	*			
ApproachDel:			16.8			xxxxxx				xxxxxx						xxxxxx								
ApproachLOS:			C			*				*						*								

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #201 Sheldon St. Entrance

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: D[31.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 0	0	0	0 0 1	1	0	1 0 2	0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	867	0	0	869	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	867	0	0	869	0
Added Vol:	30	0	26	0	0	0	0	0	12	58	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	0	26	0	0	0	0	867	12	58	869	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	0	26	0	0	0	0	867	12	58	869	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	30	0	26	0	0	0	0	867	12	58	869	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1424	xxxx	439	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	879	xxxx	xxxxx
Potent Cap.:	129	xxxx	571	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	777	xxxx	xxxxx
Move Cap.:	122	xxxx	571	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	777	xxxx	xxxxx
Volume/Cap:	0.25	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	192	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	31.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		31.3		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		D		*			*			*		

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #202 Arleta Ave. Entrance

****

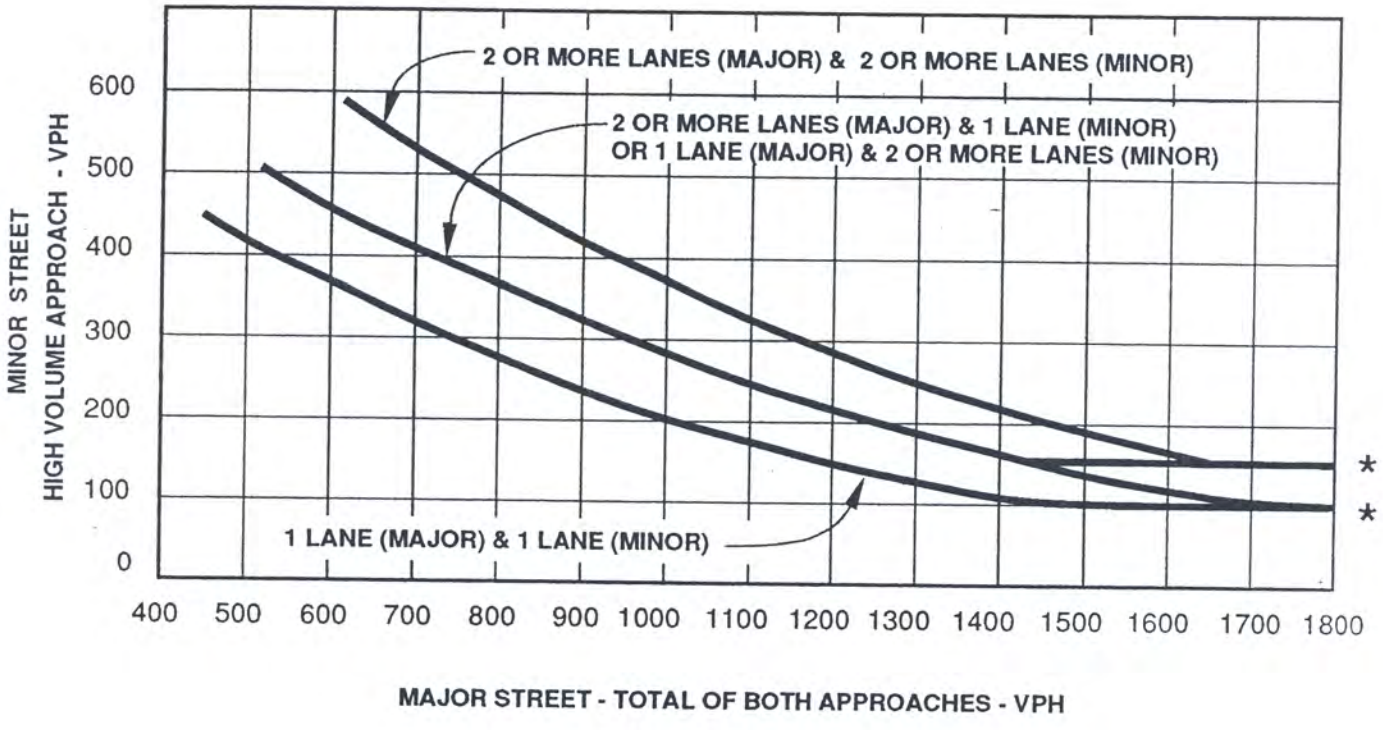
Average Delay (sec/veh): 1.8 Worst Case Level Of Service: C[15.3]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1	0	1 0 2	0	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0	410	0	0	274	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	410	0	0	274	0	0	0	0	0	0	0
Added Vol:	0	0	87	12	0	0	0	0	0	88	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	410	87	12	274	0	0	0	0	88	0	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	410	87	12	274	0	0	0	0	88	0	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	410	87	12	274	0	0	0	0	88	0	12
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	497	xxxx	xxxxx	xxxx	xxxx	xxxxx	615	xxxx	249
Potent Cap.:	xxxx	xxxx	xxxxx	1077	xxxx	xxxxx	xxxx	xxxx	xxxxx	428	xxxx	758
Move Cap.:	xxxx	xxxx	xxxxx	1077	xxxx	xxxxx	xxxx	xxxx	xxxxx	424	xxxx	758
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.21	xxxx	0.02
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	448	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	15.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			15.3		
ApproachLOS:	*			*			*			C		

Appendix D
SIGNAL WARRANTS

Figure 9-8
PEAK HOUR VOLUME WARRANT
(Urban Areas)



* NOTE:

150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Appendix E
LEVEL OF SERVICE AFTER MITIGATION

City of Los Agneles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with Project - Mitigation

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Arleta Ave. & Sheldon St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.810
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 98 Level Of Service: D

Street Name:	Arleta Ave.						Sheldon St.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 1	1	0	1 0 1	1	0	1 0 1	1	1
Volume Module:												
Base Vol:	9	925	90	52	329	83	234	811	36	68	461	713
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	925	90	52	329	83	234	811	36	68	461	713
Added Vol:	5	4	0	3	5	0	0	8	7	0	7	23
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	929	90	55	334	83	234	819	43	68	468	736
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	929	90	55	334	83	234	819	43	68	468	736
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	929	90	55	334	83	234	819	43	68	468	736
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	14	929	90	55	334	83	234	819	43	68	468	736
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.60	0.40	1.00	1.90	0.10	1.00	1.17	1.83
Final Sat.:	1425	2850	1425	1425	2283	567	1425	2708	142	1425	1662	2613
Capacity Analysis Module:												
Vol/Sat:	0.01	0.33	0.06	0.04	0.15	0.15	0.16	0.30	0.30	0.05	0.28	0.28
Crit Vol:		464			55			234			401	
Crit Moves:		****			****			****			****	

Appendix F
RE-ANALYSIS OF THE UNSIGNALIED INTERSECTION

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Weekday PM)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.443
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1 1	0	1 0	2 0	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	978	52	56	328	0	0	0	0	32	0	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	978	52	56	328	0	0	0	0	32	0	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	978	52	56	328	0	0	0	0	32	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	978	52	56	328	0	0	0	0	32	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	978	52	56	328	0	0	0	0	32	0	61
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.90	0.10	1.00	2.00	0.00	0.00	0.00	0.00	0.34	0.00	0.66
Final Sat.:	0	2849	151	1500	3000	0	0	0	0	516	0	984
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.04	0.11	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Crit Vol:		515			56			0				93
Crit Moves:		****			****							****

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM without project

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.469
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 27 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1 1	0	1 0	2 0	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	1051	53	57	217	0	0	0	0	33	0	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1051	53	57	217	0	0	0	0	33	0	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1051	53	57	217	0	0	0	0	33	0	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1051	53	57	217	0	0	0	0	33	0	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1051	53	57	217	0	0	0	0	33	0	62
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.90	0.10	1.00	2.00	0.00	0.00	0.00	0.00	0.35	0.00	0.65
Final Sat.:	0	2856	144	1500	3000	0	0	0	0	521	0	979
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.04	0.07	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Crit Vol:		552			57			0				95
Crit Moves:		****			****							****

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Weekday PM with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.509
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 1	1	0	1	0 2	0	0	0	0 0	0	0	0	0 1!	0	0
Volume Module:																
Base Vol:	0	1051	53		57	217	0		0	0	0		33	0	62	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1051	53		57	217	0		0	0	0		33	0	62	
Added Vol:	0	73	0		11	59	0		0	0	0		0	0	12	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1124	53		68	276	0		0	0	0		33	0	74	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1124	53		68	276	0		0	0	0		33	0	74	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1124	53		68	276	0		0	0	0		33	0	74	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	1124	53		68	276	0		0	0	0		33	0	74	
Saturation Flow Module:																
Sat/Lane:	1500	1500	1500		1500	1500	1500		1500	1500	1500		1500	1500	1500	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.91	0.09		1.00	2.00	0.00		0.00	0.00	0.00		0.31	0.00	0.69	
Final Sat.:	0	2865	135		1500	3000	0		0	0	0		463	0	1037	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.39	0.39		0.05	0.09	0.00		0.00	0.00	0.00		0.07	0.00	0.07	
Crit Vol:		589				68				0					107	
Crit Moves:		****				****									****	

City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
Existing Condition (Saturday)

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.146
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 17 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1 1	0	1 0	2 0	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	301	23	25	223	0	0	0	0	11	0	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	301	23	25	223	0	0	0	0	11	0	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	301	23	25	223	0	0	0	0	11	0	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	301	23	25	223	0	0	0	0	11	0	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	301	23	25	223	0	0	0	0	11	0	21
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.86	0.14	1.00	2.00	0.00	0.00	0.00	0.00	0.34	0.00	0.66
Final Sat.:	0	2787	213	1500	3000	0	0	0	0	516	0	984
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.11	0.02	0.07	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Crit Vol:		162			25			0				32
Crit Moves:		****			****							****

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday without proejct

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.175
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 17 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1 1	0	1 0	2 0	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	389	23	25	273	0	0	0	0	11	0	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	389	23	25	273	0	0	0	0	11	0	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	389	23	25	273	0	0	0	0	11	0	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	389	23	25	273	0	0	0	0	11	0	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	389	23	25	273	0	0	0	0	11	0	21
Saturation Flow Module:												
Sat/Lane:	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.89	0.11	1.00	2.00	0.00	0.00	0.00	0.00	0.34	0.00	0.66
Final Sat.:	0	2833	167	1500	3000	0	0	0	0	516	0	984
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.14	0.02	0.09	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Crit Vol:		206			25			0				32
Crit Moves:		****			****							****

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City of Los Angeles - Sheldon/Arleta Park
Traffic Impact Study
2007 Saturday with project

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Wicks St. & Arleta Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.218
Loss Time (sec): 0 (Y+R = 4 sec) Average Crit Del (sec/veh): xxxxxx
Optimal Cycle: 18 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 1	1	0	1	0 2	0	0	0	0 0	0	0	0	0 1!	0	0
Volume Module:																
Base Vol:	0	389	23		25	273	0		0	0	0		11	0	21	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	389	23		25	273	0		0	0	0		11	0	21	
Added Vol:	0	75	0		14	75	0		0	0	0		0	0	12	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	464	23		39	348	0		0	0	0		11	0	33	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	464	23		39	348	0		0	0	0		11	0	33	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	464	23		39	348	0		0	0	0		11	0	33	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	0	464	23		39	348	0		0	0	0		11	0	33	
Saturation Flow Module:																
Sat/Lane:	1500	1500	1500		1500	1500	1500		1500	1500	1500		1500	1500	1500	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.91	0.09		1.00	2.00	0.00		0.00	0.00	0.00		0.25	0.00	0.75	
Final Sat.:	0	2858	142		1500	3000	0		0	0	0		375	0	1125	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.16	0.16		0.03	0.12	0.00		0.00	0.00	0.00		0.03	0.00	0.03	
Crit Vol:		244				39				0					44	
Crit Moves:		****				****									****	

Appendix G
LADOT TRAFFIC ASSESSMENT

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Arleta Ave & Sheldon St
DOT Case No. SFV 04-050

Date: April 8, 2004

To: Jim Doty, Environmental Supervisor II
Bureau of Engineering

From: Sergio D. Valdez, Transportation Engineer
Department of Transportation

Subject: **TRAFFIC ASSESSMENT FOR THE PROPOSED NEW SHELDON-ARLETA SPORTS FIELD PARK AT 8680 ARLETA AVENUE**

The Department of Transportation (DOT) has completed the traffic assessment for the proposed new sports field park at 8680 Arleta Avenue. This traffic assessment is based on a traffic study prepared by P&D Consultants, dated March 2004 and revised April 2004. After a careful review of the pertinent data, DOT has determined that the traffic study, as revised by DOT, adequately describes the project related traffic impacts of the proposed development.

DISCUSSION AND FINDINGS

The proposed project will consist of the new construction of 7 soccer fields, 2 baseball fields, and 2 basketball courts. The proposed project will generate an additional 300 net new trips in the p.m. peak hour and 340 net new trips in the Saturday peak hour, as shown below. The trip generation estimates are based on the *Initial Study For The Hansen Dam Soccer Complex Project* and formulas published by the Institute of Transportation Engineers (ITE) Trip Generation, 7th Edition.

Land Use	Size	Daily Trips	PM Peak Hour Trips			Saturday Peak Hour Trips		
		Total	In	Out	Total	In	Out	Total
Proposed:								
Soccer Fields	7 fields	980	126	126	252	126	126	252
Baseball Fields	2 fields	160	35	5	40	40	40	80
Basketball Courts	2 courts	62	4	4	8	4	4	8
NET NEW TRIPS		**1202**	**165**	**135**	**300**	**170**	**170**	**340**

After a review of the pertinent data, DOT has determined that the project will have a significant traffic impact at the intersection of Arleta Avenue and Sheldon Street, as shown in the summary of volume-to-capacity (V/C) ratios and levels of service (LOS) at the study intersections (see Attachment A). The project can mitigate its project traffic-related impact to a less-than-significant level by funding a proportionate share of the cost for the design and construction of the Golden State Freeway Corridor ATSAC/ATCS system. Furthermore, the proposed project is not expected to significantly impact the

residential street study segment of Wicks Street west of Laurel Canyon Boulevard. DOT recommends that the following Project Requirements be adopted as conditions of project approval.

PROJECT REQUIREMENTS

A. Automated Traffic Surveillance and Control (ATSAC) System/Adaptive Traffic Control Systems (ATCS)

The intersection of Arleta Avenue and Sheldon Street will be mitigated to a less-than-significant level by funding the proportionate share of the cost for the design and construction of the Golden State Freeway Corridor ATSAC/ATCS System. The project's proportionate share of the cost for the Golden State Freeway Corridor ATSAC/ATCS System is equal to the average ATSAC/ATCS System cost per intersection, which currently is $104,800. The Golden State Freeway Corridor ATSAC/ATCS System is fully funded and currently scheduled for completion in January 2007. The ATSAC/ATCS System has received funding from the City of Los Angeles in excess of $104,800. Therefore, due to the fact the ATSAC/ATCS improvement has been funded by the City of Los Angeles, and the city is the applicant for the Sheldon-Arleta Sports Field Park, the intersection of Arleta Avenue and Sheldon Street is mitigated to a less-than-significant level and there are no further requirements.

B. Highway Dedication and Improvements

Due to the unknown underground extent of the previous landfill, the proposed project will not be required to dedicate and widen along the entire project frontage. The dedication and improvements will only be required as needed for site access, to the satisfaction of DOT.

C. Project Access to Sheldon Street

Dedication, widening, and restriping are required, to the satisfaction of DOT, to provide median channelization on Sheldon Street for two-way left turn lanes and/or left turn pockets for full service access to the project site.

D. Project Access to Arleta Avenue

Dedication, widening, and restriping are required, to the satisfaction of DOT, to provide full service access to the project site at Arleta Avenue. Project access shall be lined up directly opposite the existing DWP/LAUSD site driveway located on the west side of Arleta Avenue. The project driveway shall be constructed in such a manner as to meet the driveway standard required for signalized driveways, to the satisfaction of DOT.

This determination does not include approval of the project's driveways, internal circulation, or parking scheme. Final DOT approval shall be obtained prior to issuance of any building permits. This should be accomplished by submitting detailed site and driveway plans, with a minimum scale of 1"=40', to DOT's Valley Development Review Section at 6262 Van Nuys Boulevard Suite 320, Van Nuys, CA 91401.

If you have any further questions, you may contact Kevin Ecker of my staff at (818) 374-4699.

Attachment
SV:kc
SFV 04-050

c: Sixth Council District
Mike Bagheri, DOT Metro Programs
Irwin Chodash, DOT East Valley District
Tim Conger, DOT GEO Design
Cefe Munoz, BOE Valley District
Chris Pruitt, P&D Consultants

ATTACHMENT A

Sheldon-Arleta Sports Field Park
Arleta Ave & Sheldon St
DOT Case No: SFV 04-050

Summary of Volume to Capacity Ratios (V/C) and Levels of Service (LOS)
April 8, 2004

PM Peak Hour

Intersection	Peak Hour	Year 2004 Existing		Year 2007 w/o Project		Year 2007 w/ Project		Project Impact	Year 2007 w/ Mitigation		Project Impact
		V/C	LOS	V/C	LOS	V/C	LOS	Δ V/C	V/C	LOS	Δ V/C
Arleta Ave & Wicks St	PM	0.443	A	0.469	A	0.509	A				
Arleta Ave & Sheldon St	PM	0.957	E	0.976	E	0.994	E	0.018*	0.894	D	-0.082
Sheldon St & Roscoe Blvd	PM	0.861	D	0.881	D	0.896	D	0.015			
Laurel Canyon Blvd & Sheldon St	PM	0.959	E	1.034	F	1.041	F	0.007			
Laurel Canyon Blvd & Wicks St	PM	0.499	A	0.523	A	0.528	A	0.005			
Arleta Ave & Roscoe Blvd	PM	0.754	C	0.779	C	0.788	C	0.009			
Hollywood 170 Fwy SB Off-Ramp & Roscoe Blvd	PM	0.762	C	0.774	C	0.781	C	0.007			
Hollywood 170 Fwy NB Off-Ramp & Sheldon St	PM	0.526	A	0.544	A	0.574	A	0.030			

* Significant Impact

Saturday Peak Hour

Intersection	Peak Hour	Year 2004 Existing		Year 2007 w/o Project		Year 2007 w/ Project		Project Impact	Year 2007 w/ Mitigation		Project Impact
		V/C	LOS	V/C	LOS	V/C	LOS	Δ V/C	V/C	LOS	Δ V/C
Arleta Ave & Wicks St	Sat.	0.146	A	0.175	A	0.218	A				
Arleta Ave & Sheldon St	Sat.	0.463	A	0.481	A	0.504	A	0.023			
Sheldon St & Roscoe Blvd	Sat.	0.739	C	0.765	C	0.780	C	0.015			
Laurel Canyon Blvd & Sheldon St	Sat.	0.601	B	0.651	B	0.668	B	0.017			
Laurel Canyon Blvd & Wicks St	Sat.	0.322	A	0.346	A	0.355	A	0.009			
Arleta Ave & Roscoe Blvd	Sat.	0.508	A	0.541	A	0.580	A	0.039			
Hollywood 170 Fwy SB Off-Ramp & Roscoe Blvd	Sat.	0.811	D	0.831	D	0.841	D	0.010			
Hollywood 170 Fwy NB Off-Ramp & Sheldon St	Sat.	0.335	A	0.348	A	0.361	A	0.013			

* Significant Impact

Appendix B

Air Quality Impact Analysis

Air Quality Impacts Analysis

Baseline Information

California is divided into 15 air basins for the purposes of managing the state's air resources on a regional level. The City of Los Angeles is within the South Coast Air Basin, which consists of four counties – San Bernardino, Riverside, Los Angeles, and Orange. The air basin includes all of Los Angeles and Orange counties and the urbanized portions of San Bernardino and Riverside counties. The distinctive climate of the air basin is determined by its terrain and geographic location. The air basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

State and federal agencies have set ambient air quality standards for certain air pollutants (shown in Table 1). National Ambient Air Quality Standards (NAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM10), fine particulate matter (PM2.5) and lead (Pb). The state standards for these criteria pollutants are more stringent than the corresponding federal standards.

Table 1. Ambient Air Quality Standards.

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
			Primary[3]	Secondary[5]
Ozone (O_3)	8 Hour		0.08 ppm (note 5)	0.08 ppm
	1 Hour	0.09 ppm	0.12 ppm	0.12 ppm
Respirable Particulate Matter (PM10)	24 Hour	50 μ/m^3	150 μ/m^3	150 μ/m^3
	1 Year	20 μ/m^3	50 μ/m^3	50 μ/m^3
Fine Particulate Matter (PM2.5)	24 Hour	No Separate Standard	65 μ/m^3 (note 5)	65 μ/m^3
	1 Year	12 μ/m^3	15 μ/m^3	15 μ/m^3
Carbon Monoxide (CO)	8 Hour	9.0 ppm	9 ppm	None
	1 Hour	20 ppm	35 ppm	None
Nitrogen Dioxide (NO_2)	1 Year		0.053 ppm	0.053 ppm
	1 Hour	0.25 ppm		
Sulfur Dioxide (SO_2)	1 Year		0.030 ppm	
	24 Hour	0.04 ppm	0.14 ppm	
	3 Hour			0.5 ppm
	1 Hour	0.25 ppm		
Lead[6]	30 Day	1.5 μ/m^3		
	Calendar Quarter		1.5 μ/m^3	1.5 μ/m^3
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer (10 miles visibility) due to particles when relative humidity is less than 70%	No Federal Standard	
Sulfates	24 Hour	25 μ/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm		
Vinyl Chloride[6]	24 Hour	0.01 ppm		

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
5. New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18,1997. Contact U.S. EPA for further clarification and current federal policies.
6. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Areas are classified under the Federal Clean Air Act as either "attainment" or "non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the state standards is determined by the California Air Resources Board. The project site is located in the Los Angeles County portion of the Basin. Los Angeles County is designated as a non-attainment area for O_3, CO, and PM10, and an attainment area for SO_2, NO_2, and Pb.

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws, regulations, and policies in the South Coast Air Basin. Included in the SCAQMD's tasks are monitoring of air pollution, preparation of the State Implementation Plan (SIP) for the Basin, and promulgation of its Rules and Regulations. Air quality impacts associated with this project were evaluated using the thresholds of significance established by the SCAQMD and presented in the *CEQA Air Quality Handbook* (SCAQMD 1993).

The South Coast Air Basin is subdivided into 38 source/receptor areas. Air quality summaries for the three most recent years available (2000-2002) are attached. The proposed project is in source/receptor area 7, East San Fernando Valley.

The project is in the northeastern San Fernando Valley, near the junction of the Hollywood Freeway (Rte 170) and the Santa Ana Freeway (Rte 5). It is bounded by Sheldon Street on the north, Sharp Avenue on the east, Wicks Street on the south and Arleta Avenue on the west. The area north of Sheldon Street is the Department of Water and Power's Tujunga Spreading ground. The area east of Sharp Avenue is developed with single-family homes. Francis Polytechnic High School occupies the south side of Wicks Street, with athletic fields and a student parking lot adjacent to the street. The area west of Arleta Street contains the Department of Water and Power's Anthony Office Building and parking lot.

Project Description

Construction is scheduled to begin in August or September of 2005 and take about 12 months. Project completion is scheduled for March 2007. Specific park amenities may be built in phases depending on funding. Site grading for the park would take 5 weeks. It is expected that grading for the project would be balanced on site, though settling may dictate that some import may be required. Cut and fill is estimated at approximately 100,000 cubic yards (CY). Construction of park facilities and landscaping is estimated to last about 12 months. No construction would take place on Sundays or national holidays. Construction activities would not occur before 7:00 a.m. or after 9:00 p.m. on weekdays or before 8:00 a.m. or after 6:00 p.m. Saturdays.

The actual numbers and kinds of equipment that will be used to construct the project cannot be determined at this time. The analysis in this report is based on a typical construction scenario which includes using the following off-road equipment at the site during site grading: bulldozers, dump trucks, water trucks, loader, grader, and compactors. The typical construction scenario used for the analysis in this report also includes the following equipment during construction of park facilities and landscaping/exterior finishes: backhoe, loader, concrete pump, bulldozers, water trucks, paver, truck crane and material delivery trucks.

The analysis in this document assumes that, unless otherwise stated, the project will be designed, constructed and operated following all applicable laws, regulations, ordinances and formally adopted City standards (e.g., *Los Angeles Municipal Code* and Bureau of Engineering *Standard Plans*). Also, the analysis in this document assumes that construction will follow the uniform practices established by the Southern California Chapter of the American Public Works Association (e.g., *Standard Specifications for Public Works Construction* and the *Work Area Traffic Control Handbook*) as specifically adapted by the City of Los Angeles (e.g., The City of Los Angeles Department of Public Works *Additions and Amendments to the Standard Specifications For Public Works Construction* (AKA "The Brown Book," formerly Standard Plan S-610)).

2000 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2000

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide: No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	No. Days Standard Exceeded[a]: Federal ≥ 9.5 ppm 8-hour	State > 9.0 ppm 8-hour	Ozone: No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. Ppm 8-hour	No. Days Standard Exceeded: Federal > 0.12 ppm 1-hour	Federal > 0.08 ppm 8-hour	State > 0.09 ppm 1-hour	Nitrogen Dioxide: No. Days of Data	Max. Conc. in ppm 1-hour	Average Compared to Federal Standard[b] AAM in ppm	No. Days Standard Exceeded State > 0.25 ppm 1-hour	Sulfur Dioxide: No. Days of Data	Max. Conc. in ppm 1-hour[c]	Max. Conc. in ppm 24-hour[c]	Average Compared to Federal Standard[d] AAM in ppm
Los Angeles County																						
1	Central LA	087	365	7	6.0	0	0	365	0.14	0.105	0.086	1	4	8	353	0.16	0.0404	0	305*	0.08*	0.010*	0.0009*
2	Northwest Coastal LA County	091	362	6	4.3	0	0	365	0.10	0.079	0.071	0	0	2	361	0.16	0.0273	0	--	--	--	--
3	Southwest Coastal LA County	094	365	9	7.0	0	0	359	0.10	0.075	0.065	0	0	1	364	0.13	0.0275	0	365	0.17	0.017	0.0017
4	South Coastal LA County	072	363	10	5.8	0	0	365	0.12	0.080	0.069	0	0	3	358	0.14	0.0313	0	365	0.05	0.014	0.0015
6	West San Fernando Valley	074	365	11	9.8	1	2	362	0.11	0.084	0.083	0	0	6	365	0.11	0.0285	0	--	--	--	--
7	East San Fernando Valley	069	365	8	6.1	0	0	363	0.15	0.119	0.098	3	11	16	365	0.17	0.0415	0	357	0.01	0.004	0.0001
8	West San Gabriel Valley	088	357	9	7.4	0	0	362	0.16	0.134	0.106	7	14	19	355	0.17	0.0296	0	--	--	--	--
9	East San Gabriel Valley 1	060	365	5	4.9	0	0	365	0.17	0.141	0.109	11	16	32	365	0.15	0.0366	0	--	--	--	--
9	East San Gabriel Valley 2	591	345	4	3.1	0	0	358	0.17	0.148	0.113	11	22	39	349	0.13	0.0290	0	--	--	--	--
10	Pomona/Walnut	075	360	7	4.9	0	0	363	0.15	0.124	0.089	3	5	18	358	0.14	0.0435	0	--	--	--	--
11	South San Gabriel Valley	085	365	7	5.3	0	0	365	0.14	0.114	0.086	2	4	11	365	0.14	0.0366	0	--	--	--	--
12	South Central LA County 1	084	365	13	10.0	2	6	365	0.09	0.064	0.051	0	0	0	360	0.14	0.0386	0	--	--	--	--
12	South Central LA County 2	801	222*	13*	9.5*	1*	3*	222*	0.12*	0.095*	0.085*	0*	4*	4*	221*	0.11*	0.0292*	0*		--	--	--
13	Santa Clarita Valley	089	345	6	4.9	0	0	360	0.13	0.111	0.099	1	16	31	360	0.10	0.0246	0	--	--	--	--
Orange County																						
16	North Orange County	3177	364	14	6.1	0	0	364	0.14	0.103	0.085	1	4	8	269*	0.12*	0.0304*	0*	--	--	--	--
17	Central Orange County	3176	360	8	6.8	0	0	364	0.13	0.101	0.075	1	1	9	364	0.13	0.0300	0	--	--	--	--
18	North Coastal Orange County	3195	339*	8*	6.3*	0*	0*	365	0.10	0.087	0.087	1	1	1	362	0.11	0.0205	0	363	0.02	0.008	0.0005
19	Saddleback Valley 1	3186	244*	5*	2.3*	0*	0*	244*	0.13*	0.110*	0.068*	1*	2*	3*	--	--	--	--	--	--	--	--
19	Saddleback Valley 2	3812	305*	4*	3.3*	0*	0*	305*	0.15*	0.129*	0.089*	2*	8*	25*	--	--	--	--	--	--	--	--
Riverside County																						
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	365	5	4.3	0	0	365	0.14	0.113	0.106	3	29	41	298*	0.10*	0.0236*	0*	329*	0.11*	0.041*	0.0008*
23	Metropolitan Riverside County 2	4146	365	9	4.3	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Perris Valley	4149	--	--	--	--	--	361	0.16	0.126	0.113	15	41	65	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	351	4	2.0	0	0	361	0.13	0.109	0.099	1	31	45	360	0.08	0.0175	0	--	--	--	--
29	Banning Airport	4164	--	--	--	--	--	363	0.14	0.111	0.103	4	39	52	365	0.21	0.0237	0	--	--	--	--
30	Coachella Valley 1**	4137	353	3	1.6	0	0	355	0.12	0.105	0.096	0	33	40	337	0.07	0.0178	0	--	--	--	--
30	Coachella Valley 2**	4157	87*	3*	2.1*	0*	0*	354	0.11	0.096	0.089	0	9	43	87*	0.06*	0.0099*	0*	--	--	--	--
San Bernardino County																						
32	Northwest San Bernardino Valley	5175	348	4	2.6	0	0	365	0.18	0.159	0.118	10	19	43	357	0.15	0.0380	0	--	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	--	--	--	--	--	365	0.17	0.139	0.101	7	16	36	365	0.12	0.0364	0	274*	0.02*	0.010*	0.0018*
34	Central San Bernardino Valley 2	5203	304*	5*	4.3*	0*	0*	365	0.15	0.125	0.111	7	27	48	365	0.10	0.0325	0	--	--	--	--
35	East San Bernardino Valley	5204	--	--	--	--	--	365	0.15	0.133	0.113	11	51	78	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	--	--	354	0.18	0.149	0.123	17	73	85	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	District Maximum			14	10.0	2	6		0.18	0.159	0.123	17	73	85		0.21	0.0435	0		0.17	0.041	0.0018

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

*Less than 12 full months of data. May not be representative.

**Salton Sea Air Basin.

a) - The federal 1-hour standard (1-hour average CO > 35 ppm) and state 1-hour standard (1-hour average CO > 20 ppm) were not exceeded.

b) - The federal standard is annual arithmetic mean NO_2 greater than 0.0534 ppm. No location exceeded this standard.

c) - The state standards are 1-hour average > 0.25 ppm and 24-hour average > 0.045 ppm. No location exceeded state standards.

d) - The federal standard is annual arithmetic mean SO_2 > 0.03 ppm. No location exceeded this standard.
The other federal standards (3-hour average > 0.50 ppm, and 24-hour average > 0.14 ppm) were not exceeded either.

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182
http://www.aqmd.gov

The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/smog/areamap.html. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2000

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 [e] No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standard State > 50 µg/m³ 24-hour	Annual Averages [h] AAM Conc. µg/m³	Annual Averages [h] AGM Conc. µg/m³	Suspended Particulates PM2.5 [f] No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 65 µg/m³ 24-hour	Annual Averages [i] AAM Conc. µg/m³	Particulates TSP [g] No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average AAM Conc. µg/m³	Lead [g] Max. Monthly Average Conc. [j] µg/m³	Lead [g] Max. Quarterly Average Conc. [j] µg/m³	Sulfate [g] Max. Conc. in µg/m³ 24-hour	Sulfate [g] No. (%) Samples Exceeding Standard State ≥ 25 µg/m³ 24-hour
Los Angeles County																			
1	Central LA	087	60	80	0	15(25)	40.0	37.0	334	87.8	11(3.3)	22.0	60	127	72.0	0.06	0.05	16.4	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	60	87	48.2	--	--	14.1	0
3	Southwest Coastal LA County	094	57	74	0	9(16)	36.1	33.4	--	--	--	--	61	127	64.8	0.08	0.05	16.2	0
4	South Coastal LA County	072	57	105	0	12(21)	37.6	34.0	304*	81.5*	4(1.3)*	19.2*	61	164	68.2	0.05	0.04	26.7	1
6	West San Fernando Valley	074	--	--	--	--	--	--	108	67.5	2(1.9)	18.1	--	--	--	--	--	--	--
7	East San Fernando Valley	069	60	74	0	14(23)	39.1	36.1	70*	84.4*	3(4.3)*	23.8*	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	--	110	66.3	1(0.9)	19.3	60	91	49.1	--	--	13.9	0
9	East San Gabriel Valley 1	060	57	94	0	24(42)	46.3	42.5	333	92.5	5(1.5)	20.1	59	157	85.3	--	--	17.2	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	--	116	89.5	4(3.4)	24.1	57	118	74.7	0.09	0.06	13.1	0
12	South Central LA County 1	084	--	--	--	--	--	--	121	82.1	2(1.7)	23.0	60	167	74.9	0.09	0.06	11.4	0
12	South Central LA County 2	801	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13	Santa Clarita Valley	089	61	64	0	4(7)	32.7	29.8	--	--	--	--	--	--	--	--	--	--	--
Orange County																			
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	61	126	0	8(13)	39.9	35.7	273*	113.9*	6(2.2)*	21.0*	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley 1	3186	31*	60*	0*	1(3)*	28.9*	27.4*	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley 2	3812	60	98	0	2(3)	27.8	25.5	119	94.7	1(0.8)	14.7	--	--	--	--	--	--	--
Riverside County																			
22	Norco/Corona	4155	58	129	0	28(48)	49.3	43.4	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	97	139	0	68(70)	60.1	54.7	304*	119.6*	11(3.6)*	28.2*	62	211	115.5	0.06	0.05	11.0	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	--	111	79.3	5(4.5)	25.5	63	144	82.8	0.04	0.03	10.2	0
24	Perris Valley	4149	59	87	0	13(22)	41.1	36.8	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	59	69	0	5(8)	29.1	24.7	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	56	44	0	0	24.4	22.7	120	28.5	0	9.6	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	103[k]	114[k]	0[k]	52(50)[k]	51.9[k]	48.4[k]	115	28.6	0	11.2	--	--	--	--	--	--	--
San Bernardino County																			
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	56	122	69.8	0.07	0.05	11.5	0
33	Southwest San Bernardino Valley	5817	58	124	0	26(45)	50.4	46.3	111	73.4	2(1.8)	24.2	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	60	108	0	31(52)	52.6	47.1	111	72.9	2(1.8)	24.5	57	180	97.3	--	--	10.7	0
34	Central San Bernardino Valley 2	5203	60	108	0	32(53)	50.1	44.5	102*	89.8*	3(2.9)*	25.4*	59	168	95.4	0.06	0.05	12.4	0
35	East San Bernardino Valley	5204	61	109	0	27(44)	46.0	39.7	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	58	49	0	0	24.0	20.7	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	58	29.0	0	10.6	--	--	--	--	--	--	--
District Maximum				139	0	68	60.1	54.7		119.6	11	28.2		211	115.5	0.09	0.06	26.7	1

µg/m³ - Micrograms per cubic meter of air. AAM - Annual Arithmetic Mean AGM - Annual Geometric Mean -- - Pollutant not monitored.

* - Less than 12 full months of data. May not be representative.

** - Salton Sea Air Basin.

e) - PM10 samples were collected every 6 days (every 3 days at Station Numbers 4144 and 4157) using the size-selective inlet high volume sampler with quartz filter media.

f) - PM2.5 federal standard was established effective September 16, 1997. PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

g) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

h) - Federal PM10 standard is AAM > 50 µg/m³; and state standard is AGM > 30 µg/m³.

i) - Federal PM2.5 standard is AAM > 15 µg/m³.

j) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. No location exceeded lead standards. Special monitoring immediately downwind of stationary sources of lead was carried out at four locations in 2000. The maximum monthly average concentration was 0.46 µg/m³, and the maximum quarterly average concentration was 0.34 µg/m³, both recorded in Area 5, Southeast Los Angeles County.

k) - The data for the samples collected on high-wind-days (190 µg/m³ on 4/21/00, 201 µg/m³ on 5/15/00 and 183 µg/m³ on 9/21/00) were excluded in accordance with EPA's Natural Events Policy.

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2001 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2001

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide: No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	No. Days Standard Exceeded[a]: Federal ≥ 9.5 ppm 8-hour	State > 9.0 ppm 8-hour	Ozone: No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	No. Days Standard Exceeded: Health Advisory ≥ 0.15 ppm 1-hour	Federal > 0.12 ppm 1-hour	Federal > 0.08 ppm 8-hour	State > 0.09 ppm 1-hour	Nitrogen Dioxide: No. Days of Data	Max Conc. in ppm 1-hour[b]	Max. Conc in ppm 24-hour	Average Compared To Federal Standard[c] AAM in ppm	Sulfur Dioxide: No. Days of Data	Max. Conc. in ppm 1-hour[d]	Max. Conc. in ppm 24-hour[d]
LOS ANGELES COUNTY																					
1	Central LA	087	362	6	4.57	0	0	361	0.116	0.099	0	0	1	8	365	0.14	0.078	0.0378	365	0.03	0.010
2	Northwest Coastal LA County	091	361	4	3.00	0	0	365	0.099	0.080	0	0	0	1	365	0.11	0.080	0.0251	--	--	--
3	Southwest Coastal LA County	094	365	7	5.14	0	0	360	0.098	0.080	0	0	0	1	362	0.11	0.080	0.0250	365	0.04	0.012
4	South Coastal LA County	072	361	6	4.71	0	0	360	0.091	0.070	0	0	0	0	364	0.13	0.070	0.0308	364	0.05	0.012
6	West San Fernando Valley	074	365	7	6.00	0	0	365	0.140	0.117	0	2	7	25	359	0.09	0.060	0.0266	--	--	--
7	East San Fernando Valley	069	364	6	4.88	0	0	356	0.129	0.104	0	2	5	15	347	0.25	0.091	0.0419	345	0.01	0.004
8	West San Gabriel Valley	088	355	7	5.00	0	0	361	0.160	0.120	1	1	9	28	365	0.15	0.086	0.0345	--	--	--
9	East San Gabriel Valley 1	060	361	3	2.88	0	0	365	0.189	0.131	3	9	18	36	365	0.12	0.094	0.0331	--	--	--
9	East San Gabriel Valley 2	591	357	3	2.50	0	0	362	0.190	0.135	5	13	31	61	365	0.12	0.067	0.0274	--	--	--
10	Pomona/Walnut Valley	075	365	5	3.43	0	0	363	0.144	0.108	0	1	3	12	365	0.13	0.095	0.0371	--	--	--
11	South San Gabriel Valley	085	365	6	4.00	0	0	365	0.132	0.100	0	1	2	7	363	0.14	0.076	0.0352	--	--	--
12	South Central LA County	084	365	12	7.71	0	0	365	0.077	0.061	0	0	0	0	363	0.15	0.072	0.0369	--	--	--
13	Santa Clarita Valley	090[l]	361	6	3.14	0	0	356	0.184	0.129	2	9	27	49	351	0.10	0.048	0.0239	--	--	--
ORANGE COUNTY																					
16	North Orange County	3177	363	11	4.71	0	0	360	0.114	0.090	0	0	2	4	363	0.13	0.069	0.0275	--	--	--
17	Central Orange County	3176	274*	8*	4.71*	0*	0*	274*	0.107*	0.071*	0*	0*	0*	2*	274*	0.12*	0.069*	0.0293*	--	--	--
18	North Coastal Orange County	3195	363	6	4.57	0	0	365	0.098	0.073	0	0	0	1	365	0.08	0.063	0.0182	343	0.01	0.007
19	Saddleback Valley	3812	365	3	2.38	0	0	365	0.125	0.098	0	1	2	10	--	--	--	--	--	--	--
RIVERSIDE COUNTY																					
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	356	5	3.43	0	0	365	0.143	0.120	0	7	34	41	362	0.15	0.064	0.0247	365	0.02	0.011
23	Metropolitan Riverside County 2	4146	329*	6*	4.50*	0*	0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Perris Valley	4149	--	--	--	--	--	361	0.152	0.136	5	19	58	73	--	--	--	--	--	--	--
25	Lake Elsinore	4158	355	2	2.00	0	0	348	0.151	0.120	1	12	46	61	352	0.09	0.102	0.0185	--	--	--
29	Banning Airport	4164	--	--	--	--	--	365	0.149	0.129	2	16	49	63	343	0.24	0.057	0.0211	--	--	--
30	Coachella Valley 1**	4137	357	2	1.50	0	0	358	0.137	0.114	0	6	42	53	345	0.08	0.043	0.0175	--	--	--
30	Coachella Valley 2**	4157	--	--	--	--	--	365	0.114	0.099	0	0	17	21	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																					
32	Northwest San Bernardino Valley	5175	364	3	1.75	0	0	365	0.174	0.138	6	14	33	53	347	0.13	0.085	0.0384	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	--	--	--	--	--	365	0.165	0.136	6	13	31	44	365	0.13	0.084	0.0358	330*	0.01*	0.010*
34	Central San Bernardino Valley 2	5203	365	4	3.25	0	0	365	0.184	0.144	5	18	39	55	329*	0.11*	0.066*	0.0303*	--	--	--
35	East San Bernardino Valley	5204	--	--	--	--	--	327*	0.167*	0.144*	7*	21*	52*	68*	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	--	--	365	0.171	0.139	12	26	74	88	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM				12	7.71	0	0		0.190	0.144	12	26	74	88		0.25	0.102	0.0419		0.09	0.012

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

*Less than 12 full months of data. May not be representative.

**Salton Sea Air Basin.

a) - The federal 1-hour standard (1-hour average CO > 35 ppm) and state 1-hour standard (1-hour average CO > 20 ppm) were not exceeded.

b) - The state standard is 1-hour average > 0.25 ppm. No location exceeded state standard.

c) - The federal standard is annual arithmetic mean NO_2 greater than 0.0534 ppm. No location exceeded this standard.

d) - The state standards are 1-hour average > 0.25 ppm and 24-hour average > 0.045 ppm. No location exceeded state standards. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 3-hour average > 0.50 ppm, and 24-hour average > 0.14 ppm. SO_2 concentrations were well below the federal standards.

l) - Station relocated in May 2001.

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182
http://www.aqmd.gov

The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/smog/areamap.html. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

2001 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2001

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 [e] No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standard State > 50 µg/m³ 24-hour	Annual Averages [h] AAM Conc. µg/m³	Annual Averages [h] AGM Conc. µg/m³	Suspended Particulates PM2.5 [f] No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 65 µg/m³ 24-hour	Annual Averages [i] AAM Conc. µg/m³	Particulates TSP [g] No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average AAM Conc. µg/m³	Lead [g] Max. Monthly Average Conc. [j] µg/m³	Lead [g] Max. Quarterly Average Conc. [j] µg/m³	Sulfate [g] Max. Conc. in µg/m³ 24-hour	Sulfate [g] No. (%) Samples Exceeding Standard State ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																			
1	Central LA	087	61	97	0	20(33)	44.2	40.3	334	73.4	4(1.2)	22.9	61	131	75.4	0.06	0.05	15.9	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	60	81	46.5	--	--	15.6	0
3	Southwest Coastal LA County	094	58	75	0	8(14)	37.1	34.4	--	--	--	--	61	118	71.4	0.04	0.04	20.6	0
4	South Coastal LA County	072	59	91	0	10(17)	37.4	34.8	317	72.9	1(0.3)	21.4	68	113	67.2	0.05	0.04	15.9	0
6	West San Fernando Valley	074	--	--	--	--	--	--	109	71.1	1(0.9)	18.5	--	--	--	--	--	--	--
7	East San Fernando Valley	069	61	86	0	14(23)	40.9	36.9	117	94.7	4(3.4)	24.9	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	--	110	78.1	1(0.9)	20.9	60	88	49.6	--	--	13.4	0
9	East San Gabriel Valley 1	060	58	106	0	22(38)	45.3	39.9	308	79.7	4(1.3)	21.8	59	178	93.9	--	--	14.1	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	--	95	77.3	3(3.2)	26.1	59	146	76.9	0.07	0.05	14.5	0
12	South Central LA County	084	--	--	--	--	--	--	116	73.1	3(2.6)	24.5	58	385	90.2	0.23	0.12	15.4	0
13	Santa Clarita Valley	090 [l]	61	62	0	4(7)	32.0	28.5	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																			
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	46*	93*	0*	9(20)*	36.0*	33.7*	252*	70.8*	1(0.4)*	22.4*	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	57	60	0	3(5)	26.4	24.0	102	53.4	0	15.8	--	--	--	--	--	--	--
RIVERSIDE COUNTY																			
22	Norco/Corona	4155	54	109	0	18(33)	44.8	39.3	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	117	136	0	78(67)	63.1	54.3	325	98.0	19(5.8)	31.1	57	296	123.7	0.04	0.03	10.7	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	--	106	74.9	5(4.7)	28.3	61	182	86.8	0.03	0.03	9.2	0
24	Perris Valley	4149	60	86	0	16(27)	40.8	36.0	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	54	219	1(1.9)	7(13)	35.1	26.7	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	49*	53 [k]	0 [k]	1(2) [k]	26.7 [k]	23.9 [k]	107	44.7	0	10.8	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	112 [k]	149 [k]	0 [k]	50(45) [k]	50.2 [k]	44.3 [k]	113	33.5	0	12.2	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																			
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	58	171	69.7	0.05	0.04	10.7	0
33	Southwest San Bernardino Valley	5817	64	166	1(1.6)	27(42)	52.4	46.2	113	71.2	2(1.8)	26.2	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	60	106	0	34(57)	50.5	43.8	114	74.8	4(3.5)	24.8	60	237	102.1	--	--	10.7	0
34	Central San Bernardino Valley 2	5203	60	106	0	31(52)	52.0	45.2	111	78.5	5(4.5)	26.2	55	224	101.3	0.05	0.04	11.5	0
35	East San Bernardino Valley	5204	49*	102*	0*	22(45)*	46.6*	39.6*	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	57	34.6	0	10.9							
DISTRICT MAXIMUM				219	1	78	63.1	54.3		98.0	19	31.1		385	123.7	0.23	0.12	20.6	0

µg/m³ - Micrograms per cubic meter of air. AAM - Annual Arithmetic Mean AGM - Annual Geometric Mean -- - Pollutant not monitored.

* - Less than 12 full months of data. May not be representative.

** - Salton Sea Air Basin.

e) - PM10 samples were collected every 6 days (every 3 days at Station Numbers 4144 and 4157) using the size-selective inlet high volume sampler with quartz filter media.

f) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

g) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

h) - Federal PM10 standard is AAM > 50 µg/m³; and state standard is AGM > 30 µg/m³.

i) - Federal PM2.5 standard is AAM > 15 µg/m³.

j) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. No location exceeded lead standards. Special monitoring immediately downwind of stationary sources of lead was carried out at four locations in 2000. The maximum monthly average concentration was 0.57 µg/m³, and the maximum quarterly average concentration was 0.49 µg/m³, both recorded in Area 1, Central Los Angeles.

k) - The data for the samples collected on high-wind-days (245 µg/m³ on 6/3/01, 180 µg/m³ on 6/12/01, 155 µg/m³ on 7/3/01, 604 µg/m³ on 8/17/01 and 165 µg/m³ on 9/13/01 at Station Number 4157; and 432 µg/m³ on 7/3/01 at Station Number 4137) were excluded in accordance with EPA's Natural Events Policy.

l) - Station relocated in May 2001.

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2002 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2002

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide					Ozone								Nitrogen Dioxide				Sulfur Dioxide		
						No. Days Standard Exceeded [a]						No. Days Standard Exceeded										
			No. Days of Data	Max. Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	Federal ≥ 9.5 ppm 8-hour	State > 9.0 ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	Health Advisory ≥ 0.15 ppm 1-hour	Federal > 0.12 ppm 1-hour	Federal > 0.08 ppm 8-hour	State > 0.09 ppm 1-hour	No. Days of Data	Max Conc. in ppm 1-hour	No. Days Standard Exceeded State > 0.25 ppm 1-hour	Average Compared to Federal Standard [b] AAM in ppm	No. Days of Data	Max. Conc. in ppm 1-hour [c]	Max. Conc. in ppm 24-hour [c]
LOS ANGELES COUNTY																						
1	Central LA	087	360	5	4.0	0	0	365	0.122	0.080	0.079	0	0	0	8	363	0.14	0	0.0327	365	0.02	0.016
2	Northwest Coastal LA County	091	365	4	2.7	0	0	365	0.118	0.078	0.074	0	0	0	1	360	0.11	0	0.0249	--	--	--
3	Southwest Coastal LA County	094	363	7	6.1	0	0	357	0.088	0.073	0.066	0	0	0	0	315*	0.10*	0	0.0244*	360	0.07	0.007
4	South Coastal LA County	072	365	6	4.6	0	0	365	0.084	0.065	0.060	0	0	0	0	350	0.13	0	0.0298	365	0.03	0.008
6	West San Fernando Valley	074	365	6	4.8	0	0	365	0.152	0.122	0.113	1	9	27	42	362	0.09	0	0.0248	--	--	--
7	East San Fernando Valley	069	365	6	4.6	0	0	365	0.128	0.097	0.091	0	1	6	17	362	0.26	1	0.0402	363	0.01	0.007
8	West San Gabriel Valley	088	365	6	4.0	0	0	365	0.137	0.103	0.096	0	3	10	23	365	0.15	0	0.0335	--	--	--
9	East San Gabriel Valley 1	060	365	4	2.4	0	0	365	0.136	0.102	0.098	0	5	12	26	363	0.12	0	0.0336	--	--	--
9	East San Gabriel Valley 2	591	365	5	2.3	0	0	365	0.152	0.114	0.111	1	12	23	45	362	0.10	0	0.0272	--	--	--
10	Pomona/Walnut Valley	075	365	6	3.3	0	0	365	0.150	0.112	0.100	1	5	15	28	365	0.11	0	0.0365	--	--	--
11	South San Gabriel Valley	085	365	5	4.0	0	0	365	0.111	0.079	0.074	0	0	0	3	362	0.12	0	0.0344	--	--	--
12	South Central LA County	084	363	16	10.1	1	1	364	0.072	0.053	0.050	0	0	0	0	362	0.14	0	0.0357	--	--	--
13	Santa Clarita Valley	090	363	3	1.9	0	0	362	0.169	0.145	0.131	8	32	56	81	355	0.10	0	0.0200	--	--	--
ORANGE COUNTY																						
16	North Orange County	3177	365	10	4.4	0	0	365	0.121	0.079	0.073	0	0	0	3	335	0.12	0	0.0256	--	--	--
17	Central Orange County	3176	365	7	5.4	0	0	365	0.103	0.079	0.070	0	0	0	3	358	0.10	0	0.0244	--	--	--
18	North Coastal Orange County	3195	357	5	4.3	0	0	365	0.087	0.071	0.066	0	0	0	0	364	0.11	0	0.0187	365	0.03	0.016
19	Saddleback Valley	3612	365	3	3.6	0	0	365	0.136	0.095	0.081	0	2	2	9	--	--	--	--	--	--	--
RIVERSIDE COUNTY																						
22	Norco/Corona	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	358	8	3.0	0	0	358	0.155	0.124	0.111	1	12	38	56	338	0.10	0	0.0237	351	0.02	0.002
23	Metropolitan Riverside County 2	4146	361	7	3.9	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Perris Valley	4149	--	--	--	--	--	365	0.147	0.117	0.107	1	4	41	59	--	--	--	--	--	--	--
25	Lake Elsinore	4158	365	3	2.0	0	0	365	0.139	0.114	0.104	0	6	44	52	364	0.07	0	0.0173	--	--	--
29	Banning Airport	4164	--	--	--	--	--	365	0.160	0.131	0.113	2	13	52	64	364	0.15	0	0.0199	--	--	--
30	Coachella Valley 1**	4137	363	2	1.2	0	0	365	0.136	0.127	0.110	0	2	48	49	356	0.10	0	0.0172	--	--	--
30	Coachella Valley 2**	4157	--	--	--	--	--	365	0.114	0.111	0.096	0	0	16	24	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																						
32	Northwest San Bernardino Valley	5175	363	4	1.6	0	0	363	0.139	0.118	0.106	0	5	19	36	359	0.12	0	0.0369	--	--	--
33	Southwest San Bernardino Valley	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	--	--	--	--	--	335	0.159	0.124	0.115	2	8	22	37	303*	0.12*	0	0.0334*	329	0.03*	0.010*
34	Central San Bernardino Valley 2	5203	359	5	3.3	0	0	359	0.147	0.113	0.106	1	6	30	43	345	0.11	0	0.0296	--	--	--
35	East San Bernardino Valley	5204	--	--	--	--	--	365	0.158	0.123	0.119	2	23	47	66	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	--	--	365	0.161	0.139	0.132	3	22	82	91	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM				16	10.1	1	1		0.169	0.145	0.132	8	32	82	91		0.26	1	0.0402		0.07	0.016
SOUTH COAST AIR BASIN				16	10.1	1	1		0.169	0.145	0.132	18	49	103	118		0.26	1	0.0402		0.07	0.016

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data. May not be representative.

** Salton Sea Air Basin.

a) - The federal 1-hour standard (1-hour average CO > 35 ppm) and state 1-hour standard (1-hour average CO > 20 ppm) were not exceeded.

b) - The federal standard is annual arithmetic mean NO_2 greater than 0.0534 ppm. No location exceeded this standard.

c) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. No location exceeded state standards. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. SO_2 concentrations were well below the federal standards.

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
http://www.aqmd.gov

The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/smog/areamap.html. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

2002 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2002

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 [d),++] No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 150 µg/m³ 24-hour	State > 50 µg/m³ 24-hour	Annual Averages [g)] AAM Conc. µg/m³	AGM Conc. µg/m³	Suspended Particulates PM2.5 [e),++] No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard Federal > 65 µg/m³ 24-hour	Annual Averages [h)] AAM Conc. µg/m³	Particulates TSP [f)] No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average AAM Conc. µg/m³	Lead [f)] Max. Monthly Average Conc. [i)] µg/m³	Max. Quarterly Average Conc. [i)] µg/m³	Sulfate [f)] Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standard State ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																			
1	Central LA	087	55	65	0	8(14.5)	39.3	37.6	330	66.3	1(0.3)	21.8	69	152	77.7	0.05	0.03	15.2	0
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	60	191	52.3	--	--	14.6	0
3	Southwest Coastal LA County	094	61	121	0	12(19.7)	37.4	34.1	--	--	--	--	60	680	83.8	0.02	0.02	15.6	0
4	South Coastal LA County	072	58	74	0	5(8.6)	35.9	34.1	356	62.7	0	19.5	61	104	65.5	0.03	0.02	17.8	0
6	West San Fernando Valley	074	--	--	--	--	--	--	120	48.8	0	18.9	--	--	--	--	--	--	--
7	East San Fernando Valley	069	58	71	0	7(12.1)	37.7	35.2	122	63.0	0	24.0	--	--	--	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	--	121	57.8	0	20.3	59	86	54.8	--	--	10.5	0
9	East San Gabriel Valley 1	060	57	91	0	23(40.4)	46.1	42.7	339	72.4	1(0.3)	20.8	59	195	91.7	--	--	11.3	0
9	East San Gabriel Valley 2	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	--	118	61.0	0	23.9	60	147	82.5	0.06	0.05	11.2	0
12	South Central LA County	084	--	--	--	--	--	--	122	64.0	0	23.3	59	223	98.5	0.04	0.04	15.3	0
13	Santa Clarita Valley	090	60	61	0	7(11.7)	33.3	32.5	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																			
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	61	69	0	5(8.2)	33.6	31.5	351	68.6	1(0.3)	18.6	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	60	80	0	5(8.3)	31.3	28.7	119	58.5	0	15.5	--	--	--	--	--	--	--
RIVERSIDE COUNTY																			
22	Norco/Corona	4155	56	78	0	19(33.9)	44.5	41.5	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	118	130	0	81(68.6)	58.5	53.4	327	77.6	8(2.5)	27.5	60	200	120.1	0.03	0.02	11.7	0
23	Metropolitan Riverside County 2	4146	--	--	--	--	--	--	115	75.5	2(1.7)	27.1	62	129	84.6	0.02	0.02	10.5	0
24	Perris Valley	4149	61	100	0	24(39.3)	45.2	41.6	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	4164	54	70	0	6(11.1)	27.5	23.7	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	59	75	0	3(5.1)	27.1	24.6	119	42.3	0	10.0	--	--	--	--	--	--	--
30	Coachella Valley 2**	4157	115*	139*	0*	52(45.2)*	50.6*	49.1*	117	26.8	0	12.0	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																			
32	Northwest San Bernardino Valley	5175	--	--	--	--	--	--	--	--	--	--	61	122	71.9	0.02	0.02	11.5	0
33	Southwest San Bernardino Valley	5817	61	91	0	25(41.0)	44.9	41.0	111	64.8	0	25.2	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	5197	60	102	0	32(53.3)	50.2	45.9	118	66.6	1(0.9)	24.3	60	182	105.6	--	--	13.5	0
34	Central San Bernardino Valley 2	5203	59	94	0	33(55.9)	50.4	45.9	117	82.1	3(2.6)	25.7	60	175	97.8	0.03	0.02	10.8	0
35	East San Bernardino Valley	5204	57	83	0	18(31.6)	41.2	36.3	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	27*	52*	0	5(18.5)*	36.9*	35.0*	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	56	34.1	0	11.3	--	--	--	--	--	--	--
DISTRICT MAXIMUM				139	0	81	58.5	53.4		82.1	8	27.5		680	120.1	0.06	0.05	17.8	0
SOUTH COAST AIR BASIN				130	0	90	58.5	53.4		82.1	10	27.5		680	120.1	0.06	0.05	17.8	0

µg/m³ - Micrograms per cubic meter of air. AAM - Annual Arithmetic Mean AGM - Annual Geometric Mean -- - Pollutant not monitored.

* Less than 12 full months of data. May not be representative.

** Salton Sea Air Basin.

d) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

e) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

f) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

g) - Federal PM10 standard is annual average (AAM) > 50 µg/m³; and state standard is annual average (AAM) > 20 µg/m³.++

h) - Federal PM2.5 standard is annual average (AAM) > 15 µg/m³; and state standard is annual average (AAM) > 12 µg/m³.++

i) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. No location exceeded lead standards. Special monitoring immediately downwind of stationary sources of lead was carried out at four locations in 2002. The maximum monthly average concentration was 1.33 µg/m³, and the maximum quarterly average concentration was 0.49 µg/m³, both recorded in Southeast Los Angeles County area.

\+ - The data for the samples collected on high-wind-days (177 µg/m³ on 5/8/02 and 276 µg/m³ on 11/25/02) were excluded in accordance with EPA's Natural Events Policy.

++ - The new PM2.5 annual average state standard of 12 µg/m³ and revised PM10 annual average state standard of 20 µg/m³ (to replace AGM 30 µg/m³) recommended by the California Air Resources Board have been approved by the state Office of Administrative Law and will become effective on July 5, 2003.

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Construction Emissions

The SCAQMD's thresholds of significance for the criteria pollutants are shown on Table 2. The principal sources of pollutant emissions during construction are fugitive dust and engine exhaust from construction equipment. Fugitive dust would be created during site clearing; excavation and grading; vehicle travel on paved and unpaved roads; and material blown from unprotected graded areas, stockpiles and haul trucks. Fugitive dust includes PM10 and PM2.5, which are potential health hazards, and often contribute to visibility and nuisance impacts which occur when dust from construction activities is deposited on residences, vehicles, and vegetation. In construction equipment exhaust, the principal pollutants of concern are NOx and ROC, the primary constituents in the formation of ozone, a pollutant for which the region is currently considered in nonattainment.

Construction equipment used for park development would primarily consist of dozers, backhoes, loaders, trucks, pavers, and cranes. However, all of these pieces of construction equipment would not be used concurrently. The combination of equipment in use will change for each project phase: grading, paving, building construction, and landscaping. It is anticipated that project construction would occur for about 12 months; no construction activities would be conducted on Sundays or national holidays.

Table 2. SCAQMD Air Quality Impact Significance Thresholds.

Pollutant*	**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Daily Thresholds for Construction Emissions (lbs/day)	75	100	550	150	150
Thresholds for Construction Emissions (tons/quarter)	2.5	2.5	24.75	6.75	6.75
Daily Thresholds for Operational Emissions (lbs/day)	75	100	550	150	150

*South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993. No significance threshold is established for ozone as it is not emitted directly but is a secondary pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROCs and NO_x.

Table 3 shows the estimated construction-related emissions of the proposed project based on the URBEMIS2002 air emissions model. The URBEMIS model does not take into account the standard practices for public works construction which reduce air emissions. Even so, the majority of emissions would remain below the SCAQMD thresholds of significance. However, URBEMIS indicates potentially significant emissions of NOx (daily emissions) and PM10 (quarterly emissions) during construction.

Table 3. Estimated Construction Emissions.

Estimated Emissions*	**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Average Maximum Daily Emissions (lbs/day)	22.65	162	181.19	0.01	479.74
Daily Thresholds for Construction Emissions (lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds (lbs/day)	**0.0**	**62.0**	**0.0**	**0.0**	**329.7**
Average Quarterly Emissions (tons/quarter)	0.1	0.6	0.65	0.00	6.84
Thresholds for Construction Emissions (tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of Quarterly Thresholds (tons/quarter)	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**

*Based on URBEMIS 2002 assuming that the construction period for the grading and park construction would be approximately 18 months (396 construction days).

URBEMIS Mitigation Measures:
Replace ground cover in disturbed areas quickly
Water exposed surfaces - 2x daily
Cover all stock piles with tarps
Reduce speed on unpaved roads to < 15 mph

Table 4 shows the estimated construction-related emissions after mitigation. With the implementation of the mitigation measures identified below, the proposed project slightly exceed the threshold for NOx daily emissions. Since site grading will be done by City forces and equipment temporarily reassigned from other sites in the air basin, the emissions in Table 2 will be off-set by reductions elsewhere in the air basin and therefore are not considered significant. Due to the relatively limited amount of earthwork and the short duration of construction activities, air quality impacts resulting from the proposed project would not alter state or federal attainment status for criteria pollutants. Impacts from construction would be less than significant after mitigation.

Table 4. Estimated Construction Emissions After Mitigation.

Estimated Emissions*	**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Average Maximum Daily Emissions (lbs/day)	22.65	111.61	181.19	0.01	74.61
Daily Thresholds for Construction Emissions (lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds (lbs/day)	**0.0**	**11.6**	**0.0**	**0.0**	**0.0**

Estimated Emissions*		ROC	NO_x	CO	SO_x	PM_{10}
Average Quarterly Emissions	(tons/quarter)	0.1	0.4	0.65	0.00	1.07
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of SCAQMD Thresholds	**(tons/quarter)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

*Based on URBEMIS 2002 assuming the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Operational Emissions

Operational emissions are typically associated with vehicle trips generated by a land use. The recreation land use generates peak vehicles trips on weekends, which does not correspond with peak vehicle trip days (Monday-Friday). The proposed project would generate the greatest number of additional trips on the weekends during heavy use periods of the park. As shown in Table 5, all operational emissions generated by the anticipated vehicle traffic would remain below the SCAQMD thresholds of significance.

Table 5. Estimated Operational Emissions of Criteria Pollutants (lbs/day).

Estimated Emissions	ROC	NO_x	CO	SO_x	PM_{10}
Average Maximum Daily Emissions	19.62	25.11	273.95	0.21	19.60
Daily Thresholds for Operational Emissions	75	100	550	150	150
Exceedance of Daily Thresholds	**0**	**0**	**0**	**0**	**0**

As described above, the proposed project would not result in significant impacts to regional air quality as a result of the operation of the proposed project. Operation of the proposed project would not conflict with or obstruct the implementation of the AQMP or alter state or federal attainment status for criteria pollutants.

CO Hot Spot Analysis

Playgrounds and athletic facilities are land uses that are considered to be sensitive receptors (13). The project site is adjacent to the Hollywood Freeway (Rte 170). Freeways are potential sources of CO hot spots. However, CO concentrations in the park in 2007 are expected to be below the state and federal air quality standards. The predicted 2007 1-hour concentration is 6.6 ppm. The predicted 2007 8-hour concentration is 5.2 ppm calculated by applying a persistance factor of 0.781 to the 1-hour value. The persistance factor is the average ratio between 1-hour and 8-hour maximum CO concentrations observed in 2000, 2001 and 2002. Thus we conclude that the proposed project will not cause or expose park users to substantial pollutant concentrations.

The carbon monoxide microscale analysis was prepared in accordance with Appendix B of the *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol), University of California Davis, December 1997[1]. However, this analysis uses the most recent vehicle emission factors, EMFAC2002, instead of the factors suggested in the CO Protocol (EMFAC7G). The worst case scenario was taken to occur during the weekday PM peak hour in March of 2007 based on the traffic impact analysis.

Weather. Also as noted in the CO Protocol, vehicle emissions are sensitive to the ambient temperature. The CO Protocol uses the lowest monthly mean minimum temperature over a three-year period adjusted for the period of the day being modeled. Burbank weather data for March 2002, 2003 and 2004 were used for this project. The lowest monthly mean minimum temperature was 47°F (March 2002). This temperature was adjusted for the evening by adding 5°F (Table B.7 in the CO Protocol). A temperature of 50°F and 60% relative humidity were used in the EMFAC2000. A temperature of 4°C (39.2 °F) was used in CALINE4 model runs. Other atmospheric conditions used in the CALINE4 model include the minimum allowable wind speed (0.5 meters per second) with a standard deviation of 10 percent, a stability class of G, a mixing height of 1,000 meters and a ground surface roughness of 108 cm (43 in.); all indicative of a worst-case scenario in an urban setting.

Freeway. The most recent published freeway traffic volumes from the project area are Caltrans Traffic Counts for 2002 Rte 170 PM 20.1 (Sheldon/Arleta Streets). The AADT for the southern leg was 127,000 and the peak hour volume was 10,900. The AADT for the northern leg was 116,000 and the

[1] Transportation project-level carbon monoxide protocol user workbook, UCD-ITS-RR-98-9, prepared for the California Department of Transportation, UC Davis-Caltrans AQ Project Report Series, Davis, CA. (1998)

Transportation Project-Level Carbon Monoxide Protocol, UCD-ITS-RR-97-21, by V. J. Garza, P. Graney, D. Sperling, D. Niemeier, D. Eisinger, T. Kear, D. Chang, and Y. Meng. December 1997. http://www.dot.ca.gov/hq/env/air/coprot.htm

peak hour volume was 10,000. The higher of the two leg counts (back peak hour) was used for further analysis. Counts for 2002 and 1992 were compared to get a growth rate used to project 2002 volumes to 2007 (12,080 vehicles). Caltrans data shows that the PM Peak is 53.18% N-bound and 46.82% S-bound (Caltrans Peak Hour Volumes for 2002 measured at Rte 170 Postmile R17.62 (Victory Blvd)). This north-south proportional split was applied to the Rte 170 PM 20.1 projected peak hour volume for 2007 to yield 6,424 vehicles north-bound and 5,656 vehicles south-bound in the 2007 peak PM hour. Traffic speed used to select the EMFAC CO emission rates for the CALINE4 model were averaged from sensor loop data[2] from 6:00 to 7:00 PM on April 5, 2004 (30.4 mph north-bound and 68.2 mph south-bound). CALINE4 runs were based on the CO emission rates for 30 and 65 mph respectively.

Surface Streets. CO emissions from traffic at the intersection of Sheldon Street and Arleta Avenue was modeled following the CO Protocol. Street segments with reduced speed (and coincident increased emissions) were used to represent intersection speeds and waits.

Average speeds within 450 feet from the intersection were determined from Tables B-13 and B-14 of the CO Protocol. These speeds are based on: (a) cruise speed, (b) percent of time that the traffic signal is red, and (c) the number of vehicles per lane. All modeling retained the existing lane configurations. Following the CO Protocol, a minimum of 200 vehicles is assigned to each lane per hour. For the purposes of this analysis, the percentage of "red time" was modeled as being inversely proportional to the projected volume of vehicles. Thus, if the north/south-bound traffic constituted 60 percent of the total volume, it was allotted 40 percent of the "red time." In all cases, the "red time" was rounded to the nearest 10 percent and never exceeded 70 percent of the total cycle period.

Average speeds beyond 450 feet from the intersection were assumed to be the average cruising speeds estimated following the CO Protocol. Both Arleta Avenue and Sheldon Street are Class I arterials with “free-flow” speeds estimated at 40 mph. Free-flow speed is the average speed of vehicles that are not close to the signal, as observed during very low traffic volume conditions while drivers are not constrained by other vehicles or by the traffic signal. The CO Protocol recommends an average cruising speed of 31 mph for arterials with free-flow speeds of 40 mph.

Version:	EMFAC2002 V2.2 Apr 23 2003
Run Date:	04/05/04 10:27:53
Scenario Year:	2007 -- Model Years: 1965 to 2007
Season:	March
Area:	Los Angeles (SC)
Pollutant Name:	Carbon Monoxide
Temperature:	50F
Relative Humidity:	60%

Speed (MPH)	CO Emission (grams/mile)
5	11.022
10	8.871
15	7.407
20	6.377
25	5.634
30	5.096
35	4.712
40	4.455
45	4.317
50	4.301
55	4.431
60	4.754
65	5.36

Following the CO Protocol, projected composite vehicle emissions were then used as data in the CALINE4 model to project CO emissions at a distance of 3 meters (10 feet) from each of the four corners of the Sheldon/Arleta intersection. However, these four standard receptor location are not appropriate in this case. Three of the four locations are not accessable by the public. The southern corner is in the fenced Route 170 right of way. The western and northern corners are within the fenced DWP settling basin property. The eastern corner of the intersection is actually under the Route 170 overpass and therefore is too close to the line source to meet the Caline model conditions. Two addition receptors were modeled: one in the park close to the Sheldon/Arleta intersection (“Park Road”) and one centered in the proposed park (“Mid-Park”).

Projected future ambient CO concentrations for the year 2007 were interpolated from Air Quality Handbook Tables 5-2 and 5-3 (updated versions from http://www.aqmd.gov/ceqa/hdbk.html). Both 1-hour and 8-hour ambient CO concentrations are projected to be 7.1 ppm for source/receptor area 7 (Burbank). To maximize the number of roadway links modeled, separate CALINE4 runs were done for freeway and intersection. Initial runs were done to identify the largest CO source and the worst-case wind bearings. Then CALINE4 runs were done using the worst wind bearing for each source (freeway or intersection) and each receptor (park road or mid-park). Worst case scenario for the park road receptor was determined to be a wind bearing of 290° and 284° for mid-park. All input data and spreadsheets used in the CALINE4 model are included this report.

The predicted 2007 1-hour concentrations at the park road is 8.2 ppm. The 8-hour CO concentration was predicted by applying a persistance factor of 0.781 to the 1-hour value. The persistance factor is the average ratio between 1-hour and 8-hour maximum CO concentrations

[2] http://www.sigalert.com/speeds.asp?Region=Greater+Los+Angeles

observed in 2000, 2001 and 2002. The predicted 2007 8-hour concentration at the park road is 8.0 ppm. The predicted 1-hour and 8-hour concentrations at the center of the park are 7.7 and 7.6 ppm.

The proposed project will not cause or expose park users to CO concentrations above the state and federal air quality standards.

Odors

The refuse in Sheldon-Arleta landfill generates odorous gases (Table 6). When odors are an issue, the SCAQMD recommends a quantitative assessment of potential odors and meteorological conditions. A quantitative assessment was done following the American Society of Testing Materials (ASTM) Standard Method D 1391, which considers how many times an air sample must be diluted with "clean" air before the odor is no longer detectable to an average adult with average odor sensitivity. The number of dilution needed to reach this threshold level is referred to as the "dilution to threshold" (D/T) factor. An odor with a D/T of 2 (2 parts of fresh air to one part of odorous air) becomes faintly detectable to almost all receptors. At 5 D/T, people become consciously aware of the presence of an odor, and at 5 to 10 D/T, the odor is strong enough to evoke registered complaints. The standard to utilize in assessing off-site odor exposure is preferably below 5 D/T and acceptable below 10 D/T.

The City tests the operation of the Sheldon-Arleta Landfill gas flare system quarterly and required by Permit to Operate 288943. The results from the City's November 6, 2003 quarterly report are shown in Table 6. Only two components of the landfill gas are in concentrations that exceed their odor thresholds: Hydrogen sulfide and o+p xylenes. The landfill gas flares reduce the concentration of o+p xylenes well below the odor threshold. The concentration of hydrogen sulfide in the flare outlet is still above the odor threshold at a D/T of 100. It should be noted that the reported values for hydrogen sulfide odor threshold vary widely. The value used here (0.0047 ppm) is thought to be conservatively low.

Risk of Upset

The National Institute for Occupational Safety and Health has established recommended exposure limits (REL) based on a time-weighted average concentration for up to a 10-hour workday during a 40-hour work week. The Occupational Safety and Health Administration has established permissible exposure limits (PEL) based on a time-weighted average concentration of a substance for a normal 8-hour work day and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day. The concentrations of landfill gas components reported in the quarterly flare test cited in the preceding were compared with reported REL and PEL to determine the health risk of normal operations and upset conditions. The data indicate that three components of the landfill gas exceed the recommended or permissible exposure limit: Carbon dioxide, Hydrogen sulfide and Benzene before treatment, but the landfill gas flares reduce the concentration of Hydrogen sulfide and Benzene to concentrations well below the recommended exposure limits. Carbon dioxide, though reduced, remains high.

If the gas flare stations were to release uncombusted gas, levels of Hydrogen sulfide and Benzene could be released at concentrations up to twice the the National Institute for Occupational Safety and Health recommended exposure limits based on a time-weighted average concentration for up to a 10-hour work day during a 40-hour work week. Further dilution within a short distance from the flare station would reduce these levels below the recommended exposure limits. Furthermore, it is unlikely that the typical park user exposure would be equivalent to a 10-hour work day and 40-hour work week.

Some components of the landfill gas are combustable. The concentrations of landfill gas components reported in the quarterly flare test cited in the preceding were compared with reported "Lower Explosive Limits" to determine the health risk of normal operations and upset conditions. The lower explosive limit (LEL) of a combustible gas is defined as the smallest concentration of the gas that will support a self-propagating flame when mixed with air (or oxygen) and ignited. Only methane is present in concentrations above the lower explosive limit. Methane is reduced to below detectable limits by the normal operation of the gas flares. In an upset condition the flares could release uncombusted methane in explosive concentrations, but since methane is lighter than air, it would dissipate upward away from potential ignition sources.

Mitigation Measures

The following mitigation measures would reduce the potential impacts to air quality during construction to less than significant.

AQ1 All construction equipment shall be properly maintained and operated.

AQ2 Aqueous diesel fuels shall be used in all construction equipment, where feasible.

AQ3 Diesel oxidation catalysts shall be used in all construction equipment, where feasible.

AQ4 Land disturbance shall be minimized to the extent feasible.

AQ5 Disturbed land and open storage piles that will be left inactive for several days, shall be stabilized by one, or a combination, of the following methods: (a) appling a chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of 6 months, (b) covering, or (c) watering three times per day.

AQ6 Disturbed land that will not be paved as part of the project shall be revegetated as soon as possible.

AQ7 All active unpaved demolition and construction areas shall be wetted at least twice daily during excavation and construction. The construction area shall be sufficiently dampened to control dust caused by construction and hauling and at all times provide reasonable control of dust by wind.

AQ8 During periods of high winds (i.e., greater than 15 mph) either (a) cease all clearing, earth moving and excavation activities or (b) apply water to soil not more than 15 minutes prior to moving the soil.

AQ9 All truck loads of imported or exported soil or debris shall be either (a) securely covered or (b) comply with vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads and be sufficiently watered to prevent excessive amount of dust.

Freeway Speeds. Rte 170. from Caltrans 4-5-04.
http://www.sigalert.com/speeds.asp?Region=Greater+Los+Angeles

Sensor Location	6:00 PM	6:15 PM	6:30 PM	6:45 PM	7:00 PM	Average
Rte 170 Northbound						
Sherman Wy	64	66	68	68	67	66.6
Roscoe 1	36	66	69	71	70	62.4
Arleta	15	22	37	29	49	30.4
Arleta	n/a	n/a	n/a	n/a	n/a	
Rte 170 Southbound						
Arleta	67	67	69	69	69	68.2
Arleta	n/a	n/a	n/a	n/a	n/a	
Roscoe 1	70	70	71	72	72	71.0
Roscoe 2	71	68	70	71	72	70.4
Sherman Wy	65	69	71	65	70	68.0

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Year:2007 -- Model Years 1965 to 2007 Inclusive -- March
Emfac2002 Emission Factors: V2.2 Apr 23 2003

Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Total Organic Gases

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.845	1.141	1.285	2.781	6.760	6.644	1.099
10	0.578	0.792	0.887	2.013	4.561	5.239	0.762
15	0.415	0.576	0.642	1.513	3.208	4.325	0.554
20	0.313	0.440	0.486	1.178	2.352	3.737	0.422
25	0.247	0.351	0.385	0.947	1.796	3.380	0.336
30	0.205	0.293	0.319	0.786	1.428	3.199	0.280
35	0.178	0.256	0.276	0.672	1.183	3.168	0.243
40	0.161	0.234	0.250	0.592	1.019	3.283	0.221
45	0.153	0.224	0.236	0.535	0.914	3.561	0.210
50	0.153	0.224	0.233	0.498	0.853	4.041	0.209
55	0.159	0.234	0.240	0.476	0.827	4.800	0.217
60	0.174	0.257	0.260	0.467	0.834	5.967	0.236
65	0.200	0.295	0.294	0.472	0.875	7.764	0.269

Pollutant Name: Carbon Monoxide

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	8.209	12.832	12.600	26.512	51.388	48.541	11.022
10	6.905	10.475	9.992	17.834	33.839	39.855	8.871
15	5.959	8.832	8.244	12.640	23.574	34.446	7.407
20	5.251	7.654	7.034	9.438	17.373	31.337	6.377
25	4.710	6.795	6.179	7.423	13.541	30.005	5.634
30	4.294	6.167	5.572	6.149	11.163	30.242	5.096
35	3.976	5.719	5.152	5.366	9.731	32.087	4.712
40	3.740	5.422	4.885	4.932	8.971	35.845	4.455
45	3.582	5.266	4.760	4.777	8.744	42.168	4.317
50	3.501	5.258	4.782	4.874	9.013	52.245	4.301
55	3.510	5.426	4.978	5.243	9.822	68.182	4.431
60	3.633	5.825	5.406	5.945	11.317	93.729	4.754
65	3.917	6.560	6.171	7.109	13.788	135.723	5.360

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Year:2007 -- Model Years 1965 to 2007 Inclusive -- March
Emfac2002 Emission Factors: V2.2 Apr 23 2003

Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Oxides of Nitrogen

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.782	1.319	2.072	17.040	25.977	1.190	1.946
10	0.678	1.136	1.780	14.280	20.317	1.240	1.650
15	0.602	1.004	1.573	12.404	16.738	1.291	1.444
20	0.547	0.909	1.427	11.159	14.494	1.344	1.303
25	0.507	0.843	1.328	10.389	13.161	1.400	1.209
30	0.479	0.798	1.266	10.001	12.498	1.456	1.154
35	0.461	0.771	1.234	9.950	12.389	1.513	1.131
40	0.453	0.760	1.230	10.225	12.805	1.572	1.138
45	0.452	0.764	1.252	10.853	13.798	1.632	1.176
50	0.460	0.782	1.303	11.901	15.514	1.692	1.248
55	0.476	0.816	1.387	13.490	18.236	1.753	1.365
60	0.502	0.869	1.513	15.815	22.462	1.814	1.538
65	0.540	0.945	1.694	19.194	29.067	1.876	1.792

Pollutant Name: Carbon Dioxide

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	973.580	1178.490	1691.061	2052.909	2666.608	226.466	1147.396
10	735.944	891.334	1251.669	1923.994	2294.224	193.400	884.730
15	577.420	699.776	968.143	1847.865	2074.318	167.904	710.916
20	470.224	570.242	781.398	1801.511	1940.421	148.184	594.109
25	397.439	482.291	657.190	1772.703	1857.206	132.947	515.177
30	348.639	423.322	575.240	1754.756	1805.363	121.263	462.447
35	317.399	385.572	523.448	1743.956	1774.167	112.463	428.787
40	299.879	364.401	494.765	1738.272	1757.747	106.077	409.959
45	294.029	357.332	485.506	1736.702	1753.214	101.793	403.714
50	299.180	363.556	494.529	1738.980	1759.795	99.426	409.326
55	315.921	383.785	522.990	1745.496	1778.615	98.917	427.454
60	346.205	420.381	574.597	1757.406	1813.019	100.332	460.273
65	393.743	477.825	656.465	1776.987	1869.581	103.892	511.920

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Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Sulfur Dioxide

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.010	0.012	0.016	0.020	0.026	0.003	0.011
10	0.007	0.009	0.012	0.019	0.023	0.003	0.009
15	0.006	0.007	0.009	0.018	0.020	0.002	0.007
20	0.005	0.006	0.008	0.017	0.019	0.002	0.006
25	0.004	0.005	0.006	0.017	0.018	0.002	0.005
30	0.003	0.004	0.006	0.017	0.017	0.002	0.005
35	0.003	0.004	0.005	0.017	0.017	0.002	0.004
40	0.003	0.004	0.005	0.017	0.017	0.002	0.004
45	0.003	0.004	0.005	0.017	0.017	0.002	0.004
50	0.003	0.004	0.005	0.017	0.017	0.002	0.004
55	0.003	0.004	0.005	0.017	0.017	0.002	0.004
60	0.003	0.004	0.006	0.017	0.017	0.003	0.004
65	0.004	0.005	0.006	0.017	0.018	0.003	0.005

Pollutant Name: PM10

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.058	0.091	0.104	0.693	0.619	0.067	0.104
10	0.039	0.061	0.071	0.543	0.447	0.053	0.074
15	0.027	0.042	0.050	0.435	0.334	0.043	0.054
20	0.020	0.031	0.038	0.357	0.259	0.038	0.042
25	0.015	0.024	0.029	0.299	0.208	0.034	0.034
30	0.012	0.020	0.024	0.256	0.173	0.032	0.028
35	0.010	0.017	0.021	0.224	0.149	0.032	0.024
40	0.009	0.015	0.018	0.201	0.133	0.033	0.022
45	0.009	0.014	0.017	0.184	0.123	0.036	0.020
50	0.009	0.014	0.017	0.172	0.118	0.041	0.019
55	0.009	0.014	0.017	0.165	0.117	0.048	0.019
60	0.010	0.015	0.018	0.161	0.120	0.060	0.020
65	0.011	0.018	0.020	0.161	0.128	0.078	0.022

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Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: PM10 - Tire Wear

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.008	0.008	0.009	0.026	0.010	0.004	0.009
10	0.008	0.008	0.009	0.026	0.010	0.004	0.009
15	0.008	0.008	0.009	0.026	0.010	0.004	0.009
20	0.008	0.008	0.009	0.026	0.010	0.004	0.009
25	0.008	0.008	0.009	0.026	0.010	0.004	0.009
30	0.008	0.008	0.009	0.026	0.010	0.004	0.009
35	0.008	0.008	0.009	0.026	0.010	0.004	0.009
40	0.008	0.008	0.009	0.026	0.010	0.004	0.009
45	0.008	0.008	0.009	0.026	0.010	0.004	0.009
50	0.008	0.008	0.009	0.026	0.010	0.004	0.009
55	0.008	0.008	0.009	0.026	0.010	0.004	0.009
60	0.008	0.008	0.009	0.026	0.010	0.004	0.009
65	0.008	0.008	0.009	0.026	0.010	0.004	0.009

Pollutant Name: PM10 - Break Wear

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.013	0.013	0.013	0.013	0.013	0.013	0.013
10	0.013	0.013	0.013	0.013	0.013	0.013	0.013
15	0.013	0.013	0.013	0.013	0.013	0.013	0.013
20	0.013	0.013	0.013	0.013	0.013	0.013	0.013
25	0.013	0.013	0.013	0.013	0.013	0.013	0.013
30	0.013	0.013	0.013	0.013	0.013	0.013	0.013
35	0.013	0.013	0.013	0.013	0.013	0.013	0.013
40	0.013	0.013	0.013	0.013	0.013	0.013	0.013
45	0.013	0.013	0.013	0.013	0.013	0.013	0.013
50	0.013	0.013	0.013	0.013	0.013	0.013	0.013
55	0.013	0.013	0.013	0.013	0.013	0.013	0.013
60	0.013	0.013	0.013	0.013	0.013	0.013	0.013
65	0.013	0.013	0.013	0.013	0.013	0.013	0.013

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Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Gasoline - mi/gal

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	8.949	7.319	5.026	3.256	3.279	26.015	8.154
10	11.829	9.676	6.747	4.895	4.930	31.003	10.785
15	15.065	12.324	8.721	6.967	7.018	35.940	13.744
20	18.488	15.125	10.849	9.387	9.458	40.545	16.877
25	21.864	17.887	12.980	11.972	12.066	44.499	19.971
30	24.921	20.387	14.933	14.454	14.574	47.457	22.774
35	27.379	22.396	16.512	16.519	16.662	49.081	25.026
40	28.993	23.712	17.543	17.869	18.032	49.077	26.501
45	29.592	24.197	17.907	18.296	18.471	47.257	27.040
50	29.110	23.796	17.559	17.730	17.909	43.604	26.582
55	27.595	22.550	16.541	16.262	16.434	38.334	25.175
60	25.207	20.589	14.971	14.117	14.272	31.919	22.966
65	22.184	18.109	13.024	11.598	11.730	25.032	20.179

Pollutant Name: Diesel - mi/gal

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	27.488	28.944	22.270	5.263	3.615	0.000	8.754
10	27.488	28.944	22.270	5.263	3.615	0.000	8.754
15	27.488	28.944	22.270	5.263	3.615	0.000	8.754
20	27.488	28.944	22.270	5.263	3.615	0.000	8.754
25	27.488	28.944	22.270	5.263	3.615	0.000	8.754
30	27.488	28.944	22.270	5.263	3.615	0.000	8.754
35	27.488	28.944	22.270	5.263	3.615	0.000	8.754
40	27.488	28.944	22.270	5.263	3.615	0.000	8.754
45	27.488	28.944	22.270	5.263	3.615	0.000	8.754
50	27.488	28.944	22.270	5.263	3.615	0.000	8.754
55	27.488	28.944	22.270	5.263	3.615	0.000	8.754
60	27.488	28.944	22.270	5.263	3.615	0.000	8.754
65	27.488	28.944	22.270	5.263	3.615	0.000	8.754

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Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Total Organic Gases

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.239	0.252	0.435	1.403	0.904	2.749	0.349
10	0.393	0.409	0.694	1.833	1.270	2.838	0.533
20	0.679	0.701	1.177	2.648	1.957	3.067	0.878
30	0.938	0.965	1.613	3.403	2.583	3.367	1.190
40	1.168	1.201	2.003	4.097	3.148	3.736	1.471
50	1.371	1.409	2.346	4.731	3.652	4.174	1.720
60	1.537	1.581	2.626	5.209	4.042	4.413	1.921
120	1.672	1.627	2.384	3.657	2.743	2.681	1.874
180	1.126	1.156	2.025	3.902	2.922	2.849	1.422
240	1.192	1.225	2.144	4.141	3.097	3.070	1.507
300	1.256	1.291	2.260	4.376	3.267	3.290	1.589
360	1.319	1.356	2.373	4.604	3.433	3.509	1.670
420	1.380	1.420	2.484	4.827	3.595	3.727	1.748
480	1.440	1.482	2.591	5.044	3.752	3.944	1.824
540	1.497	1.542	2.696	5.256	3.904	4.161	1.899
600	1.554	1.601	2.797	5.462	4.053	4.377	1.971
660	1.608	1.657	2.896	5.663	4.196	4.592	2.041
720	1.661	1.713	2.991	5.858	4.335	4.806	2.110

Pollutant Name: Carbon Monoxide

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	1.896	2.229	3.979	13.749	8.330	6.223	2.999
10	3.413	4.007	7.046	21.008	14.233	6.347	5.126
20	6.274	7.360	12.821	34.672	25.314	6.648	9.135
30	8.906	10.446	18.116	47.198	35.428	7.018	12.819
40	11.309	13.264	22.931	58.586	44.573	7.458	16.177
50	13.483	15.813	27.265	68.836	52.751	7.967	19.209
60	15.427	18.095	31.119	77.948	59.961	8.545	21.917
120	18.782	20.585	26.520	46.556	33.080	7.932	21.875
180	11.912	13.931	20.975	50.488	34.951	9.948	15.944
240	12.549	14.682	22.066	54.173	36.752	12.411	16.864
300	13.148	15.387	23.102	57.611	38.483	14.595	17.728
360	13.708	16.046	24.081	60.803	40.143	16.498	18.537
420	14.231	16.661	25.005	63.749	41.732	18.121	19.288
480	14.716	17.230	25.872	66.448	43.250	19.463	19.984
540	15.163	17.754	26.683	68.900	44.698	20.526	20.624
600	15.572	18.232	27.439	71.106	46.075	21.308	21.208
660	15.944	18.666	28.138	73.065	47.381	21.810	21.735
720	16.277	19.054	28.781	74.778	48.617	22.032	22.206

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Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Oxides of Nitrogen

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.295	0.429	0.808	1.132	1.017	0.269	0.442
10	0.363	0.515	1.035	1.668	1.519	0.297	0.563
20	0.482	0.666	1.433	2.611	2.400	0.348	0.775
30	0.580	0.790	1.760	3.379	3.118	0.391	0.950
40	0.657	0.888	2.015	3.974	3.674	0.428	1.086
50	0.713	0.959	2.198	4.395	4.066	0.456	1.184
60	0.748	1.004	2.310	4.643	4.296	0.478	1.243
120	0.779	1.058	2.405	4.752	4.396	0.495	1.293
180	0.830	1.121	2.451	4.731	4.378	0.485	1.341
240	0.824	1.113	2.435	4.700	4.352	0.470	1.332
300	0.815	1.101	2.412	4.660	4.317	0.452	1.319
360	0.804	1.086	2.383	4.609	4.273	0.431	1.302
420	0.790	1.067	2.346	4.548	4.221	0.406	1.281
480	0.774	1.044	2.304	4.477	4.159	0.377	1.257
540	0.755	1.018	2.254	4.396	4.089	0.345	1.228
600	0.734	0.987	2.197	4.304	4.009	0.309	1.196
660	0.710	0.954	2.134	4.203	3.921	0.270	1.160
720	0.684	0.916	2.064	4.091	3.824	0.227	1.120

Pollutant Name: Carbon Dioxide

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	10.164	12.816	16.092	12.127	8.568	28.927	11.712
10	13.193	16.232	22.113	16.224	12.906	31.663	15.252
20	19.486	23.390	34.418	24.318	21.493	36.985	22.570
30	26.091	30.981	47.074	32.279	29.961	42.108	30.204
40	33.008	39.006	60.080	40.106	38.310	47.032	38.155
50	40.236	47.465	73.437	47.800	46.541	51.757	46.422
60	47.777	56.358	87.144	55.361	54.653	56.284	55.005
120	93.531	112.436	163.433	88.545	90.006	77.373	105.985
180	107.647	129.089	188.981	100.661	104.262	78.504	121.884
240	121.307	145.266	213.507	112.063	117.677	79.571	137.241
300	134.511	160.966	237.012	122.751	130.251	80.575	152.056
360	147.259	176.189	259.495	132.725	141.984	81.515	166.329
420	159.551	190.935	280.957	141.985	152.877	82.392	180.061
480	171.387	205.204	301.397	150.531	162.928	83.205	193.250
540	182.767	218.996	320.816	158.362	172.139	83.955	205.898
600	193.691	232.311	339.213	165.480	180.508	84.642	218.005
660	204.160	245.149	356.589	171.883	188.037	85.265	229.569
720	214.172	257.510	372.943	177.572	194.725	85.825	240.592

Title : Los Angeles County Subarea 2007 March
Version : Emfac2002 V2.2 Apr 23 2003
Run Date : 04/06/04 10:09:57
Scen Year: 2007 -- Model Years: 1965 to 2007
Season : March
Area : Los Angeles (SC)
****

Year:2007 -- Model Years 1965 to 2007 Inclusive -- March
Emfac2002 Emission Factors: V2.2 Apr 23 2003

Table 2: Starting Emissions (grams/trip) Temperature: 50F
Relative Humidity: ALL

Pollutant Name: Sulfur Dioxide

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.001	0.000
10	0.000	0.000	0.000	0.001	0.000	0.001	0.000
20	0.000	0.000	0.001	0.001	0.001	0.001	0.000
30	0.000	0.001	0.001	0.001	0.001	0.001	0.001
40	0.001	0.001	0.001	0.002	0.001	0.001	0.001
50	0.001	0.001	0.001	0.002	0.001	0.001	0.001
60	0.001	0.001	0.001	0.002	0.002	0.001	0.001
120	0.001	0.001	0.002	0.002	0.002	0.001	0.001
180	0.001	0.002	0.002	0.002	0.002	0.001	0.001
240	0.001	0.002	0.003	0.002	0.002	0.001	0.002
300	0.002	0.002	0.003	0.002	0.002	0.001	0.002
360	0.002	0.002	0.003	0.002	0.002	0.001	0.002
420	0.002	0.002	0.003	0.003	0.002	0.001	0.002
480	0.002	0.002	0.003	0.003	0.002	0.001	0.002
540	0.002	0.002	0.004	0.003	0.003	0.001	0.002
600	0.002	0.003	0.004	0.003	0.003	0.001	0.003
660	0.002	0.003	0.004	0.003	0.003	0.001	0.003
720	0.002	0.003	0.004	0.003	0.003	0.001	0.003

Pollutant Name: PM10

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.001	0.001	0.017	0.001
10	0.002	0.002	0.002	0.001	0.001	0.015	0.002
20	0.003	0.004	0.005	0.002	0.003	0.011	0.004
30	0.004	0.006	0.006	0.003	0.004	0.009	0.005
40	0.006	0.008	0.008	0.004	0.004	0.007	0.006
50	0.007	0.010	0.010	0.004	0.005	0.005	0.008
60	0.008	0.011	0.011	0.005	0.006	0.004	0.009
120	0.011	0.016	0.016	0.007	0.008	0.011	0.012
180	0.012	0.017	0.017	0.007	0.009	0.017	0.013
240	0.012	0.018	0.017	0.007	0.009	0.022	0.014
300	0.013	0.018	0.018	0.008	0.009	0.027	0.014
360	0.013	0.019	0.019	0.008	0.010	0.031	0.015
420	0.014	0.020	0.019	0.008	0.010	0.035	0.016
480	0.014	0.021	0.020	0.009	0.010	0.038	0.016
540	0.014	0.021	0.021	0.009	0.011	0.040	0.017
600	0.015	0.022	0.021	0.009	0.011	0.042	0.017
660	0.015	0.022	0.022	0.009	0.011	0.043	0.017
720	0.015	0.023	0.022	0.010	0.011	0.043	0.018

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Total Organic Gases
Temperature: 50F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.020	0.021	0.019	0.014	0.036	0.074	0.020
10	0.037	0.040	0.036	0.026	0.067	0.139	0.038
20	0.068	0.073	0.066	0.048	0.117	0.243	0.068
30	0.093	0.100	0.093	0.066	0.155	0.322	0.094
40	0.104	0.111	0.105	0.074	0.170	0.354	0.105

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases
Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases
Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
50	0.012	0.011	0.010	0.001	0.000	0.012	0.011

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases
Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
50	0.001	0.001	0.001	0.000	0.000	0.001	0.001

Table 7: Estimated Travel Fractions

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.591	0.270	0.083	0.049	0.005	0.003	1.000
%TRIP	0.563	0.253	0.115	0.064	0.001	0.004	1.000
%VEH	0.605	0.272	0.080	0.029	0.002	0.013	1.000

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Total Organic Gases
Temperature: 50F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.045	0.567	0.573	0.272	0.502	0.144	0.244
2	0.050	0.297	0.299	0.146	0.276	0.176	0.143
3	0.054	0.209	0.209	0.104	0.201	0.192	0.112
4	0.057	0.166	0.165	0.083	0.164	0.201	0.098
5	0.059	0.141	0.140	0.070	0.142	0.208	0.089
10	0.063	0.094	0.091	0.046	0.098	0.224	0.073
15	0.063	0.082	0.078	0.037	0.084	0.231	0.069
20	0.063	0.078	0.073	0.033	0.077	0.236	0.067
25	0.063	0.077	0.071	0.031	0.073	0.240	0.066
30	0.061	0.075	0.068	0.029	0.071	0.235	0.064
35	0.059	0.073	0.066	0.028	0.070	0.229	0.062
40	0.058	0.070	0.064	0.027	0.068	0.224	0.061
45	0.056	0.068	0.062	0.027	0.067	0.219	0.059
50	0.054	0.066	0.060	0.026	0.065	0.211	0.057
55	0.051	0.064	0.058	0.025	0.064	0.202	0.054
60	0.049	0.062	0.057	0.025	0.063	0.193	0.052

JOB: Route 170 Worst Case
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	850. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	7.1 PPM		
SIGTH=	10. DEGREES	TEMP=	4.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. 170 N Seg 1	*****	*****	*****	*****	FL	6424	5.1	.3	15.0
B. 170 N Seg 2	*****	*****	*****	*****	FL	6424	5.1	2.4	15.0
C. 170 N Seg 3	*****	*****	*****	*****	BG	6424	5.1	6.3	15.0
D. 170 N Seg 4	*****	*****	*****	*****	BG	6424	5.1	7.2	15.0
E. 170 N Seg 5	*****	*****	*****	*****	FL	6424	5.1	8.1	15.0
F. 170 N Seg 6	*****	*****	*****	*****	FL	6424	5.1	9.0	15.0
G. 170 N Offram	*****	*****	*****	*****	FL	577	11.0	8.1	15.0
H. 170 N Offram	*****	*****	*****	*****	FL	577	11.0	4.2	15.0
I. 170 S Seg 1	*****	*****	*****	*****	FL	5656	5.4	.3	15.0
J. 170 S Seg 2	*****	*****	*****	*****	FL	5656	5.4	2.4	15.0
K. 170 S Seg 3	*****	*****	*****	*****	BG	5656	5.4	6.3	15.0
L. 170 S Seg 4	*****	*****	*****	*****	BG	5656	5.4	7.2	15.0
M. 170 S Seg 5	*****	*****	*****	*****	AG	5656	5.4	8.1	15.0
N. 170 S Seg 6	*****	*****	*****	*****	AG	5656	5.4	9.0	15.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Mid-Park	******	571574	1.8
2. 10' East	******	571622	.5
3. 10' Sout	******	571601	.5
4. 10' West	******	571626	.5
5. 10' Nort	******	571648	.5
6. Park Rd	******	571617	.5

JOB: Route 170 Worst Case
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Mid-Park	329.	7.5	.0	.0	.0	.0	.0	.1	.0	.0
2. 10' East	180.	9.5	.2	.2	.6	.0	.0	.0	.0	.0
3. 10' Sout	173.	8.7	.2	.2	.2	.0	.0	.0	.0	.0
4. 10' West	168.	8.2	.2	.2	.2	.0	.0	.0	.0	.0
5. 10' Nort	174.	8.6	.2	.2	.3	.0	.0	.0	.0	.0
6. Park Rd	355.	8.1	.0	.0	.0	.0	.5	.0	.0	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N
1. Mid-Park	.0	.0	.0	.0	.0	.2
2. 10' East	.2	.2	.9	.2	.0	.0
3. 10' Sout	.2	.2	.6	.0	.0	.0
4. 10' West	.1	.1	.3	.0	.0	.0
5. 10' Nort	.2	.1	.6	.0	.0	.0
6. Park Rd	.0	.0	.0	.0	.3	.2

JOB: Sheldon-Arleta Intersection Worst Case
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	850. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	7.1 PPM		
SIGTH=	10. DEGREES	TEMP=	4.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. N-Bnd App	*****	*****	*****	*****	AG	1023	7.8	.0	15.0
B. N-Bnd App L	*****	*****	*****	*****	AG	14	7.1	.0	15.0
C. N-Bnd Dep	*****	*****	*****	*****	AG	1903	5.6	.0	15.0
D. S-Bnd App	*****	*****	*****	*****	AG	421	7.8	.0	15.0
E. S-Bnd App L	*****	*****	*****	*****	AG	55	7.1	.0	15.0
F. S-Bnd Dep	*****	*****	*****	*****	AG	449	5.6	.0	15.0
G. E-Bnd App	*****	*****	*****	*****	AG	862	8.8	.0	15.0
H. E-Bnd App L	*****	*****	*****	*****	AG	234	7.1	.0	15.0
I. E-Bnd Dep	*****	*****	*****	*****	AG	964	5.8	.0	15.0
J. W-Bnd App	*****	*****	*****	*****	AG	1204	8.8	.0	15.0
K. W-Bnd App L	*****	*****	*****	*****	AG	68	7.1	.0	15.0
L. W-Bnd Dep	*****	*****	*****	*****	AG	565	5.8	.0	15.0
M. E-Bnd	*****	*****	*****	*****	AG	964	5.1	.0	15.0
N. W-Bnd	*****	*****	*****	*****	AG	1204	5.1	.0	15.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Mid-Park	******	571574	1.8
2. 10' East	******	571622	.5
3. 10' Sout	******	571601	.5
4. 10' West	******	571626	.5
5. 10' Nort	******	571648	.5
6. Park Rd	******	571617	.5

JOB: Sheldon-Arleta Intersection Worst Case
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Mid-Park	284.	7.4	.0	.0	.0	.0	.0	.0	.0	.0
2. 10' East	305.	8.5	.1	.0	.5	.1	.0	.0	.0	.0
3. 10' Sout	36.	8.3	.2	.0	.0	.0	.0	.1	.1	.0
4. 10' West	67.	8.8	.0	.0	.2	.1	.0	.0	.0	.0
5. 10' Nort	185.	8.6	.0	.0	.5	.0	.0	.0	.2	.0
6. Park Rd	290.	7.7	.0	.0	.2	.0	.0	.0	.0	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N
1. Mid-Park	.0	.0	.0	.0	.0	.0
2. 10' East	.3	.3	.0	.0	.0	.2
3. 10' Sout	.3	.3	.0	.0	.0	.2
4. 10' West	.1	.6	.0	.0	.0	.4
5. 10' Nort	.0	.4	.0	.0	.0	.2
6. Park Rd	.0	.1	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Sheldon-Arleta Intersection Wind at 355
RUN: Hour 1
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	850. (M)
BRG=	355.0 DEGREES	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	7.1 PPM		
SIGTH=	10. DEGREES	TEMP=	4.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. N-Bnd App	*****	*****	*****	*****	AG	1023	7.8	.0	15.0
B. N-Bnd App L	*****	*****	*****	*****	AG	14	7.1	.0	15.0
C. N-Bnd Dep	*****	*****	*****	*****	AG	1903	5.6	.0	15.0
D. S-Bnd App	*****	*****	*****	*****	AG	421	7.8	.0	15.0
E. S-Bnd App L	*****	*****	*****	*****	AG	55	7.1	.0	15.0
F. S-Bnd Dep	*****	*****	*****	*****	AG	449	5.6	.0	15.0
G. E-Bnd App	*****	*****	*****	*****	AG	862	8.8	.0	15.0
H. E-Bnd App L	*****	*****	*****	*****	AG	234	7.1	.0	15.0
I. E-Bnd Dep	*****	*****	*****	*****	AG	964	5.8	.0	15.0
J. W-Bnd App	*****	*****	*****	*****	AG	1204	8.8	.0	15.0
K. W-Bnd App L	*****	*****	*****	*****	AG	68	7.1	.0	15.0
L. W-Bnd Dep	*****	*****	*****	*****	AG	565	5.8	.0	15.0
M. E-Bnd	*****	*****	*****	*****	AG	964	5.1	.0	15.0
N. W-Bnd	*****	*****	*****	*****	AG	1204	5.1	.0	15.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Mid-Park	******	571574	1.8
2. 10' East	******	571622	.5
3. 10' Sout	******	571601	.5
4. 10' West	******	571626	.5
5. 10' Nort	******	571648	.5
6. Park Rd	******	571617	.5

JOB: Sheldon-Arleta Intersection Wind at 355
RUN: Hour 1
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (PRED. CONC. INCLUDES AMB.)

RECEPTOR	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H	I	J
1. Mid-Park	7.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. 10' East	7.8	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3
3. 10' Sout	8.2	.0	.0	.3	.0	.0	.0	.3	.0	.0	.1
4. 10' West	7.6	.0	.0	.3	.2	.0	.0	.0	.0	.0	.0
5. 10' Nort	7.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. Park Rd	7.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1

RECEPTOR	CONC/LINK (PPM) K	L	M	N
1. Mid-Park	.0	.0	.0	.0
2. 10' East	.0	.0	.0	.2
3. 10' Sout	.0	.0	.0	.0
4. 10' West	.0	.0	.0	.0
5. 10' Nort	.0	.0	.0	.0
6. Park Rd	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Sheldon-Arleta Intersection Wind at 329
RUN: Hour 1
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	850. (M)
BRG=	329.0 DEGREES	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	7.1 PPM		
SIGTH=	10. DEGREES	TEMP=	4.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. N-Bnd App	*****	*****	*****	*****	AG	1023	7.8	.0	15.0
B. N-Bnd App L	*****	*****	*****	*****	AG	14	7.1	.0	15.0
C. N-Bnd Dep	*****	*****	*****	*****	AG	1903	5.6	.0	15.0
D. S-Bnd App	*****	*****	*****	*****	AG	421	7.8	.0	15.0
E. S-Bnd App L	*****	*****	*****	*****	AG	55	7.1	.0	15.0
F. S-Bnd Dep	*****	*****	*****	*****	AG	449	5.6	.0	15.0
G. E-Bnd App	*****	*****	*****	*****	AG	862	8.8	.0	15.0
H. E-Bnd App L	*****	*****	*****	*****	AG	234	7.1	.0	15.0
I. E-Bnd Dep	*****	*****	*****	*****	AG	964	5.8	.0	15.0
J. W-Bnd App	*****	*****	*****	*****	AG	1204	8.8	.0	15.0
K. W-Bnd App L	*****	*****	*****	*****	AG	68	7.1	.0	15.0
L. W-Bnd Dep	*****	*****	*****	*****	AG	565	5.8	.0	15.0
M. E-Bnd	*****	*****	*****	*****	AG	964	5.1	.0	15.0
N. W-Bnd	*****	*****	*****	*****	AG	1204	5.1	.0	15.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Mid-Park	******	571574	1.8
2. 10' East	******	571622	.5
3. 10' Sout	******	571601	.5
4. 10' West	******	571626	.5
5. 10' Nort	******	571648	.5
6. Park Rd	******	571617	.5

JOB: Sheldon-Arleta Intersection Wind at 329
RUN: Hour 1
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (PRED. CONC. INCLUDES AMB.)

RECEPTOR	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H	I	J
1. Mid-Park	7.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. 10' East	7.9	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3
3. 10' Sout	7.9	.0	.0	.1	.2	.0	.0	.3	.0	.0	.0
4. 10' West	7.3	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
5. 10' Nort	7.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
6. Park Rd	7.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1

RECEPTOR	CONC/LINK (PPM) K	L	M	N
1. Mid-Park	.0	.0	.0	.0
2. 10' East	.0	.0	.0	.2
3. 10' Sout	.0	.0	.0	.0
4. 10' West	.0	.0	.0	.0
5. 10' Nort	.0	.0	.0	.0
6. Park Rd	.0	.0	.0	.0

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2005 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	10.71	68.22	91.85	0.00	452.82	2.81	450.01
TOTALS (lbs/day, mitigated)	10.71	68.22	91.85	0.00	135.79	2.81	132.98

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	9.84	58.78	73.20	0.06	2.37	2.36	0.01
TOTALS (lbs/day, mitigated)	9.84	58.78	73.20	0.06	2.37	2.36	0.01

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	17.74	23.35	247.89	0.22	19.61

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	17.74	23.35	247.89	0.22	19.61

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

Construction Start Month and Year: August, 2005
Construction Duration: 12
Total Land Use Area to be Developed: 45 acres
Maximum Acreage Disturbed Per Day: 45 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source *** 2005***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	450.00	-	450.00
Off-Road Diesel	10.51	67.98	87.19	-	2.80	2.80	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.20	0.24	4.66	0.00	0.02	0.01	0.01
Maximum lbs/day	10.71	68.22	91.85	0.00	452.82	2.81	450.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	10.71	68.22	91.85	0.00	452.82	2.81	450.01

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

*** 2006***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.95	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.22	3.41	0.79	0.06	0.09	0.09	0.00
Asphalt Worker Trips	0.04	0.02	0.43	0.00	0.01	0.00	0.01
Maximum lbs/day	9.84	58.78	73.20	0.06	2.37	2.36	0.01
Max lbs/day all phases	9.84	58.78	73.20	0.06	2.37	2.36	0.01

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Aug '05
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
2	Graders	174	0.575	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0
2	Trenchers	82	0.695	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '05
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Sep '05
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

Start Month/Year for SubPhase Architectural Coatings: Jun '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Jul '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2005***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	132.97	-	132.97
Off-Road Diesel	10.51	67.98	87.19	-	2.80	2.80	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.20	0.24	4.66	0.00	0.02	0.01	0.01
Maximum lbs/day	10.71	68.22	91.85	0.00	135.79	2.81	132.98
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	10.71	68.22	91.85	0.00	135.79	2.81	132.98

*** 2006***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.95	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.22	3.41	0.79	0.06	0.09	0.09	0.00
Asphalt Worker Trips	0.04	0.02	0.43	0.00	0.01	0.00	0.01
Maximum lbs/day	9.84	58.78	73.20	0.06	2.37	2.36	0.01
Max lbs/day all phases	9.84	58.78	73.20	0.06	2.37	2.36	0.01

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 3.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)
Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Aug '05
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
2	Graders	174	0.575	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0
2	Trenchers	82	0.695	8.0

Phase 3 - Building Construction Assumptions

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Start Month/Year for Phase 3: Sep '05
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Sep '05
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

Start Month/Year for SubPhase Architectural Coatings: Jun '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Jul '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
412 County Park	19.48	33.92	241.47	0.20	19.61
TOTAL EMISSIONS (lbs/day)	19.48	33.92	241.47	0.20	19.61

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 50 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
412 County Park	50.00 trips / acres	45.00	2,250.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.30	97.10	0.60
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.50	1.90	96.80	1.30
Med Truck 5,751- 8,500	6.80	1.50	95.60	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

URBEMIS 2002 For Windows 7.4.2

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Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
412 County Park				5.0	2.5	92.5

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2005.
The default/nodefault travel setting changed from nodefault to: nodefault
Side Walks/Paths: No Sidewalks
changed to: Side Walks/Paths: Most Destinations Covered
Street Trees Provide Shade: No Coverage
changed to:Street Trees Provide Shade: Some Coverage

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Pedestrian Circulation Access: No Destinations
changed to:Pedestrian Circulation Access: Most Destinations
Visually Interesting Uses: No Uses Within Walking Distance
changed to:Visually Interesting Uses: Moderate Number and Variety
Street System Enhances Safety: No Streets
changed to: Street System Enhances Safety: Most Streets
Pedestrian Safety from Crime: No Degree of Safety
changed to:Pedestrian Safety from Crime: Moderate Degree of Safety
Visually Interesting Walking Routes: No Visual Interest
changed to:Visually Interesting Walking Routes: Minor Level
Transit Service: Dial-A-Ride or No Transit Service
changed to: Transit Service: 15-30 Minute Bus within 1/4 Mile
Interconnected Bikeways: No Bikeway Coverage
changed to: Interconnected Bikeways: Low Coverage
Bike Routes Provide Paved Shoulders: No Routes
changed to:Bike Routes Provide Paved Shoulders: Most Major Destinations
Safe Vehicle Speed Limits: No Routes Provided
changed to:Safe Vehicle Speed Limits: Few Destinations
Safe School Routes: No Schools
changed to: Safe School Routes: Primary and Secondary Schools
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.
Mitigation measure Project Provides Shade Trees to Shade Sidewalks:0.5
has been changed from off to on.
Mitigation measure Project Provides Street Art and/or Street Furniture:0.5
has been changed from off to on.
Mitigation measure Provide Pedestrian Safety Designs/Infrastructure at Crossings:0.5
has been changed from off to on.

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: August, 2005
Construction Duration: 12
Total Land Use Area to be Developed: 45 acres
Maximum Acreage Disturbed Per Day: 45 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source *** 2005***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	450.00	-	450.00
Off-Road Diesel	10.51	67.98	87.19	-	2.80	2.80	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.20	0.24	4.66	0.00	0.02	0.01	0.01
Maximum lbs/day	10.71	68.22	91.85	0.00	452.82	2.81	450.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	10.71	68.22	91.85	0.00	452.82	2.81	450.01

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

*** 2006***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.95	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.22	3.41	0.79	0.06	0.09	0.09	0.00
Asphalt Worker Trips	0.04	0.02	0.43	0.00	0.01	0.00	0.01
Maximum lbs/day	9.84	58.78	73.20	0.06	2.37	2.36	0.01
Max lbs/day all phases	9.84	58.78	73.20	0.06	2.37	2.36	0.01

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Aug '05
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
2	Graders	174	0.575	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0
2	Trenchers	82	0.695	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '05
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Sep '05
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

Start Month/Year for SubPhase Architectural Coatings: Jun '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Jul '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

*** 2005***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	132.97	-	132.97
Off-Road Diesel	10.51	67.98	87.19	-	2.80	2.80	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.20	0.24	4.66	0.00	0.02	0.01	0.01
Maximum lbs/day	10.71	68.22	91.85	0.00	135.79	2.81	132.98
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	10.71	68.22	91.85	0.00	135.79	2.81	132.98

*** 2006***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.95	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.22	3.41	0.79	0.06	0.09	0.09	0.00
Asphalt Worker Trips	0.04	0.02	0.43	0.00	0.01	0.00	0.01
Maximum lbs/day	9.84	58.78	73.20	0.06	2.37	2.36	0.01
Max lbs/day all phases	9.84	58.78	73.20	0.06	2.37	2.36	0.01

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 3.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)
Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Aug '05
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
2	Graders	174	0.575	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0
2	Trenchers	82	0.695	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '05
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Sep '05
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

Start Month/Year for SubPhase Architectural Coatings: Jun '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Jul '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
412 County Park	17.74	23.35	247.89	0.22	19.61
TOTAL EMISSIONS (lbs/day)	17.74	23.35	247.89	0.22	19.61

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
412 County Park	50.00 trips / acres	45.00	2,250.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.30	97.10	0.60
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.50	1.90	96.80	1.30
Med Truck 5,751- 8,500	6.80	1.50	95.60	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
412 County Park				5.0	2.5	92.5

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2005.
The default/nodefault travel setting changed from nodefault to: nodefault
Side Walks/Paths: No Sidewalks
changed to: Side Walks/Paths: Most Destinations Covered
Street Trees Provide Shade: No Coverage
changed to:Street Trees Provide Shade: Some Coverage
Pedestrian Circulation Access: No Destinations
changed to:Pedestrian Circulation Access: Most Destinations
Visually Interesting Uses: No Uses Within Walking Distance
changed to:Visually Interesting Uses: Moderate Number and Variety
Street System Enhances Safety: No Streets
changed to: Street System Enhances Safety: Most Streets
Pedestrian Safety from Crime: No Degree of Safety
changed to:Pedestrian Safety from Crime: Moderate Degree of Safety
Visually Interesting Walking Routes: No Visual Interest
changed to:Visually Interesting Walking Routes: Minor Level

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Transit Service: Dial-A-Ride or No Transit Service
changed to: Transit Service: 15-30 Minute Bus within 1/4 Mile
Interconnected Bikeways: No Bikeway Coverage
changed to: Interconnected Bikeways: Low Coverage
Bike Routes Provide Paved Shoulders: No Routes
changed to:Bike Routes Provide Paved Shoulders: Most Major Destinations
Safe Vehicle Speed Limits: No Routes Provided
changed to:Safe Vehicle Speed Limits: Few Destinations
Safe School Routes: No Schools
changed to: Safe School Routes: Primary and Secondary Schools
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.
Mitigation measure Project Provides Shade Trees to Shade Sidewalks:0.5
has been changed from off to on.
Mitigation measure Project Provides Street Art and/or Street Furniture:0.5
has been changed from off to on.
Mitigation measure Provide Pedestrian Safety Designs/Infrastructure at Crossings:0.5
has been changed from off to on.

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Tons/Year)

Construction Start Month and Year: August, 2005
Construction Duration: 12
Total Land Use Area to be Developed: 45 acres
Maximum Acreage Disturbed Per Day: 45 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (tons/year)

Source *** 2005***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	6.43	-	6.43
Off-Road Diesel	0.15	0.97	1.25	-	0.04	0.04	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Total tons/year	0.15	0.97	1.31	0.00	25.84	0.04	6.43
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total all phases tons/yr	0.15	0.97	1.31	0.00	25.84	0.04	6.43

*** 2006***

Phase 1 - Demolition Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.01	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.05	0.30	0.40	-	0.01	0.01	0.00
Asphalt On-Road Diesel	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.06	0.32	0.40	0.00	0.03	0.01	0.00
Total all phases tons/yr	0.06	0.32	0.40	0.00	0.03	0.01	0.00

URBEMIS 2002 For Windows 7.4.2

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Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Aug '05
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
2	Graders	174	0.575	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0
2	Trenchers	82	0.695	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '05
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Sep '05
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

Start Month/Year for SubPhase Architectural Coatings: Jun '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Jul '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (tons/year)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

*** 2005***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	1.90	-	1.90
Off-Road Diesel	0.15	0.97	1.25	-	0.04	0.04	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Total tons/year	0.15	0.97	1.31	0.00	7.72	0.04	1.90
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total all phases tons/yr	0.15	0.97	1.31	0.00	7.72	0.04	1.90

*** 2006***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.01	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.05	0.30	0.40	-	0.01	0.01	0.00
Asphalt On-Road Diesel	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.06	0.32	0.40	0.00	0.03	0.01	0.00
Total all phases tons/yr	0.06	0.32	0.40	0.00	0.03	0.01	0.00

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 3.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)
Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Aug '05
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

No.	Type	Horsepower	Load Factor	Hours/Day
2	Excavators	180	0.580	8.0
2	Graders	174	0.575	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0
2	Trenchers	82	0.695	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '05
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Sep '05
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

Start Month/Year for SubPhase Architectural Coatings: Jun '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Jul '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
412 County Park	3.34	4.90	44.85	0.04	3.58
TOTAL EMISSIONS (tons/yr)	3.34	4.90	44.85	0.04	3.58

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 90 Season: Annual

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
412 County Park	50.00 trips / acres	45.00	2,250.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.30	97.10	0.60
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.50	1.90	96.80	1.30
Med Truck 5,751- 8,500	6.80	1.50	95.60	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

% of Trips - Residential	20.0	37.0	43.0		
% of Trips - Commercial (by land use)					
412 County Park			5.0	2.5	92.5

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2005.
The default/nodefault travel setting changed from nodefault to: nodefault
Side Walks/Paths: No Sidewalks
changed to: Side Walks/Paths: Most Destinations Covered
Street Trees Provide Shade: No Coverage
changed to:Street Trees Provide Shade: Some Coverage
Pedestrian Circulation Access: No Destinations
changed to:Pedestrian Circulation Access: Most Destinations
Visually Interesting Uses: No Uses Within Walking Distance
changed to:Visually Interesting Uses: Moderate Number and Variety
Street System Enhances Safety: No Streets
changed to: Street System Enhances Safety: Most Streets
Pedestrian Safety from Crime: No Degree of Safety
changed to:Pedestrian Safety from Crime: Moderate Degree of Safety
Visually Interesting Walking Routes: No Visual Interest
changed to:Visually Interesting Walking Routes: Minor Level

URBEMIS 2002 For Windows 7.4.2

File Name: D:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Sheldon Arleta Park.urb
Project Name: Sheldon/Arleta Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

Transit Service: Dial-A-Ride or No Transit Service
changed to: Transit Service: 15-30 Minute Bus within 1/4 Mile
Interconnected Bikeways: No Bikeway Coverage
changed to: Interconnected Bikeways: Low Coverage
Bike Routes Provide Paved Shoulders: No Routes
changed to:Bike Routes Provide Paved Shoulders: Most Major Destinations
Safe Vehicle Speed Limits: No Routes Provided
changed to:Safe Vehicle Speed Limits: Few Destinations
Safe School Routes: No Schools
changed to: Safe School Routes: Primary and Secondary Schools
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.
Mitigation measure Project Provides Shade Trees to Shade Sidewalks:0.5
has been changed from off to on.
Mitigation measure Project Provides Street Art and/or Street Furniture:0.5
has been changed from off to on.
Mitigation measure Provide Pedestrian Safety Designs/Infrastructure at Crossings:0.5
has been changed from off to on.

Table 6. Composition of gas generated by Sheldon/Arleta landfill.

Constituent concentrations in this table are from samples taken October 14, 2003 for the City's quarterly report to SCAQMD persuant to Permit to Operate 342725 (Horizon Air Measurement Services, Inc.. *Emission Compliance Test on a Landfill Gas Flare. Permit to Operate A/N 288943.* City of Los Angeles Bureau of Sanitation Resources Engineering & Construction Division. November 6, 2003). All concentrations have been converted to parts per million (ppm) to make direct comparisons easier for the lay reader. This conversion can introduce some technical inaccuracies that are negligible in the present context. Concentrations given as "less than" (<) are below the detection limit of the mandated test method (reported values are the detection limits). N/A means "not applicable."

Constituent	General Characteristics	Health Hazard	Level In Landfill Gas	Level In Flare Outlet	Lower Explosive Limit (2)	Recommended or Permissable Exposure Limit (3)	Odor Threshold(4)
Carbon Dioxide	Colorless, odorless gas. [Solid form is utilized as dry ice.]	Asphyxient	256,000	45,000	Not explosive	5,000 REL	odorless
Methane	Colorless, odorless gas	Asphyxient	255,000	--	50,000	N/A	odorless
Oxygen	Colorless, odorless gas	Non-toxic in most conditions	26,600	153,100	N/A	N/A	odorless
Hydrogen Sulfide	Colorless gas with a strong odor of rotten eggs.	Headaches, discomfort, diarrhea and breathing paralysis.	10.9	<0.5ppm	40,000	10 REL	0.0047
Benzene	Colorless to light-yellow liquid with an aromatic odor	Cancer	0.182	<0.0002	13,000	0.1 REL 75.0 PEL	4.7
Benzylchloride = chloromethylbenzene	Colorless to slightly yellow liquid with a pungent, aromatic odor.	Burns respiratory tract, skin, eyes, mucous membranes, suspect cancer hazard (in animals)	<0.040	<0.0008	11,000	1.0	.047
Chlorobenzene	Colorless liquid with an almond-like odor.	Irritates respiratory tract, skin, eyes. Central nervous system	0.024	<0.0002	13,000	75 PEL	0.21

Constituent	General Characteristics	Health Hazard	Level In Landfill Gas	Level In Flare Outlet	Lower Explosive Limit (2)	Recommended or Permissable Exposure Limit (3)	Odor Threshold(4)
		depression					
Dichlorobenzenes Two isomers: p-Dichlorobenzene and o-Dichlorobenzene	The p-isomer is a colorless or white crystalline solid with a mothball-like odor [insecticide]. The o-isomer is a colorless to pale-yellow liquid with a pleasant, aromatic odor. [herbicide]	Cancer, kidney, liver, and lung damage	0.655	<0.0011 (p-) <0.0002 (o-)	25,000 (p-) 22,000 (o-)	75 PEL (p-) 50 REL (o-)	30 (p- form) 50 (o- form)
1,1-dichloroethane	Colorless, oily liquid with a chloroform-like odor.	Damage to heart, kidneys.	<0.020	<0.0002	54,000	100 REL	445
1,2-dichloroethane	Colorless liquid with a pleasant, chloroform-like odor.	Damage to nerves, liver, kidneys, lungs. may cause cancer	<0.020	<0.0002	62,000	1 REL	6
1,1-dichloroethylene	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor.	Irritates respiratory tract, skin, eyes. Depress central nerve syst.	<0.030	<0.0002	65,000	5 ACGIH TWA	500
Dichloromethane	Colorless liquid with a chloroform-like odor. [Note: A gas above 104°F.]	Cancer	<0.020	0.00485	130,000	25 PEL	214
1,2-dibromoethane	Colorless liquid or solid (below 50°F) with a sweet odor. [fumigant]	Cancer	<0.020	<0.0002	N/A	0.045 REL	26
Perchloroethene = Tetrachloroethylene	Colorless liquid with a mild, chloroform-	Irritant; liver damage;	<0.020	<0.0001	nonflammable	100 PEL	1.0

Constituent	General Characteristics	Health Hazard	Level In Landfill Gas	Level In Flare Outlet	Lower Explosive Limit (2)	Recommended or Permissable Exposure Limit (3)	Odor Threshold(4)
	like odor.	potential carcinogen					
Carbon tetrachloride	Colorless liquid with a characteristic ether-like odor.	Irritant Potential carcinogen	<0.030	<0.0001	N/A	2 REL	214
Toluene	Colorless liquid with a sweet, pungent, benzene-like odor.	Irritation; liver, kidney damage	2.050	0.00072	11,000	100 REL	2.14
1,1,1-trichloroethane	Colorless liquid with a mild, chloroform-like odor.	irritant	<0.020	<0.0001	75,000	350	44
Trichloroethene	Colorless liquid with a chloroform-like odor.	Irritant Potential carcinogen	0.024	<0.0001	80,000	100 PEL	2.14
Chloroform	Colorless liquid with a pleasant odor.	Irritant Potential carcinogen	<0.020	<0.0001	N/A	2 REL	3.30
Vinyl Chloride	Colorless gas or liquid with an ethereal or sweet odor	gastrointestinal pain & bleeding; enlarged liver; Potential carcinogen	<0.020	<0.0002	36,000	1 PEL	"high concentrations"
m xylenes	Colorless liquid with an aromatic odor.		2.490	0.00072	11,000	100 REL	4
o+p xylenes	Colorless liquid with an aromatic odor.		0.522	0.0002	9,000	100 REL	0.05

(2) **Lower Explosive Limit (LEL)** The lower explosive limit (LEL) of a combustible gas is defined as the smallest concentration of the gas that will support a self-propagating flame when mixed with air (or oxygen) and ignited. From NIOSH Pocket Guide to Chemical Hazards (on line version http://www.cdc.gov/niosh/npg/npg.html) and others.

(3) **PEL** is the permissible exposure limit set by the Occupational Safety and Health Administration based on a time-weighted average concentration of a substance for a normal 8-hour work day and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day. **REL** is the recommended exposure limit set by the National Institute for Occupational Safety and Health based on a time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek. The data in the above table are from the NIOSH Pocket Guide to Chemical Hazards (on line version http://www.cdc.gov/niosh/npg/npg.html).

(4) Spectrum Laboratories, Inc. Ft. Lauderdale, FL & Savannah, GA. http://www.speclab.com/compound/chemabc.htm

Appendix C

Noise Report

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

DATE: February 17, 2004

TO: File

FROM: Jim Doty, Envir. Supv. II
Environmental Group
Bureau of Engineering

SUBJECT: **SHELDON ARLETA PARK (W.O. E1700500) NOISE**

Noise was measured on Monday, February 16, 2004, a federal holiday (President's Day). Weather was cool, clear, dry, with no noticeable wind. The site is bounded by Arleta Avenue, Sheldon Street, Sharp Avenue and Wicks Street. The instrument used was the Quest Model 1900 integrating/logging sound level meter (sn CC0060034, Environmental Group's "Quest 1", last serviced 6-26-00) equipped with a Bruel & Kjaer Type 4936 prepolarized condenser microphone (sn 2128748, last serviced 4-29-99). The meter and microphone were calibrated immediately before on-site measurements began with a Bruel & Kjaer Type 4231 acoustical calibrator at a sound pressure level of 94 dB at 1000 Hz (sn 1790944 last serviced 4-5-94). The microphone was mounted at head height on a tripod and a microphone wind screen used.

Arleta Avenue is a secondary highway improved with curb and asphaltic concrete sidewalk on the adjacent east side, and concrete curb, gutter and sidewalk on the west side. The right-of way is 72 feet wide south of Wicks Street. North of Wicks Street Arleta Avenue has an 85-foot right-of-way flaring to 94 feet at its intersection with Sheldon Ave. There are two traffic lanes in each direction separated by a striped median for turning movements. "No stopping" is allowed on either side of the street. A 15-minute measurement was taken beginning at 10:44 AM. The microphone was located on the east side of the street just outside the gate at the first driveway north of Wicks Street (NavigateLA location x=6,438,261feet; y=1,904,543 feet). Distance to the centerline of the nearest traffic lane was about 21 feet. Light traffic including occasional heavy truck. Signalized intersection at freeway off-ramp caused some acceleration and deceleration noise. Freeway traffic in line of sight and noticeably noisy. Freeway operating at LOS A or B(+).

Sheldon Street adjoining the site is a secondary highway improved with an asphaltic concrete curb on the adjacent south side and concrete curb, gutter and sidewalk on the north side. It has an 82 foot wide right-of-way east of Sharp Avenue. West of Sharp Avenue Sheldon Street has an 86 foot wide right-of-way, flaring at its intersection with Arleta Avenue. There are two traffic lanes in each direction, with turning lanes at Arleta Avenue. "No stopping" is allowed on either side of the street. A 15-minute measurement was taken beginning at 11:09 AM. The microphone was located on the south side of the street just outside the fence at the first poplar tree west of a fire hydrant west of the freeway off-ramp (NavigateLA location x=6,438,217 feet; y=1,905,854 feet). Distance to the centerline of the nearest traffic lane was about 21 feet. Light traffic including one heavy truck. Closest (north-bound) lanes are up-hill. Street curved around microphone, so traffic noise exposure

may be partially blocked by property fence. Freeway traffic in line of sight in one quadrant (DWP Bldg blocks other quadrant) and noticeably noisy. Freeway operating at LOS A or B(+).

Sharp Avenue is a collector street improved with curb, gutter and sidewalk on the adjacent west side of the street and on the east side of the street south of Allegheny Street. The east side of Sharp Avenue north of Allegheny Street has no curb, gutter nor walk. Sharp Avenue has a 60-foot right-of-way. It provides one traffic lane in each direction. Parking is allowed on the east side of the street only. The adjacent west side is marked "no parking." A 15-minute measurement was taken beginning at 11:32 AM. The microphone was located at the intersection of the property lines (presumed to be the fence line) southeast corner of Sharp Avenue and Allegheny Street (NavigateLA location x=6,439,155 feet; y=1,905,636 feet). Distance to the centerline of the nearest traffic lane on Sharp Avenue was about 24 feet. Very light traffic. No yard work or other outside residential activity occurred during measurement. Loudest noise was frequent crow calls.

Wicks Street is a collector street improved with curb and gutter on the adjacent north side and curb, gutter and sidewalk on the south side. The street has a 60-foot right-of-way. There is one lane of traffic and curb-side parking in each direction. A 15-minute measurement was taken beginning at 11:50 AM. The microphone was located on the south side of the street just outside the fence opposite the shot put area (putter's position as marked by an x'd circle) (NavigateLA location x=6,439,196 feet; y=1,904,718 feet). Distance to the centerline of the nearest traffic lane on Sharp Avenue was about 21 feet. No one was present on the school grounds, nor elsewhere in sight. Very light traffic.

OBSERVED NOISE LEVELS

Table NOISE. Ambient sound levels observed over 15-minute intervals between 10:45 AM and 12:15 PM on February 16, 2004 (a holiday).

Location	L_{EQ}	L_{max}	L_5	L_{10}	L_{50}	L_{90}	L_{min}
Arleta Ave east side mid-block	65.2	79.7	71.7	69.1	60.1	55.2	52.1
Sheldon St south side mid-block	68.6	83.2	73.5	72.0	66.2	61.6	59.4
Sharp Ave east side At Allegheny St	52.5	64.0	56.4	55.0	51.0	48.5	46.4
Wicks St south side mid-block	60.0	82.6	63.8	58.7	50.1	48.1	46.7

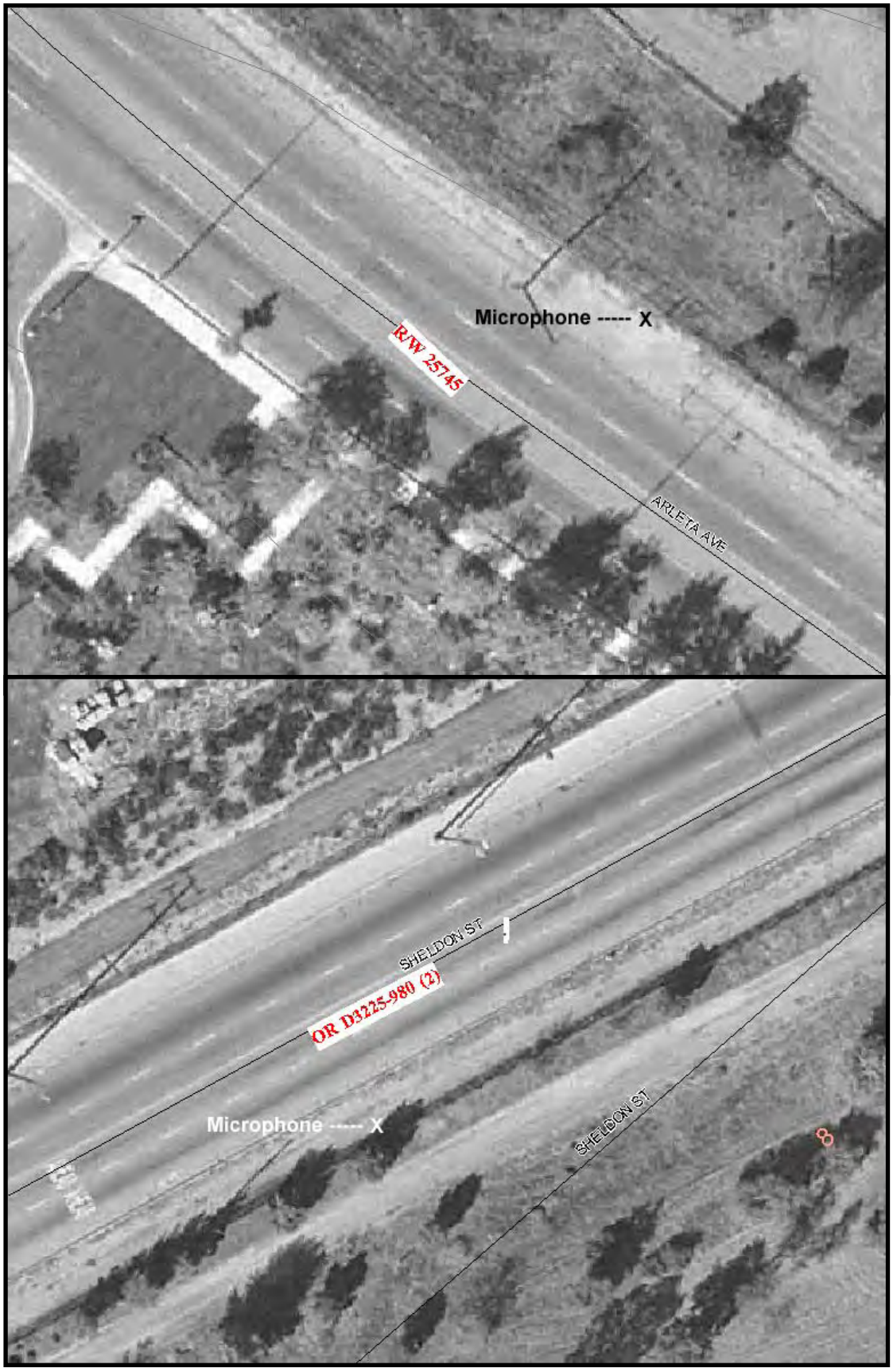
DISCUSSION

Most of the area surrounding the proposed site contains land uses that are not sensitive to ambient noise: the Route 130 Freeway, settling basins; commercial offices and a public high school's athletic fields. However, the eastern property line of the project site is 60 feet away from residences on Sharp Avenue. Residences are noise-sensitive land uses. Inasmuch as traffic is light on holidays (and there were no other major noise sources such as yard work or sports events), the observed sound levels are probably lower than typical and therefore environmentally conservative. Noise regulations of the municipal code specify the presumed

ambient daytime noise levels in residential areas are 50 to 65 decibels and commercial areas are 50 to 70 decibels. The availability of an actual, measured ambient daytime noise level, 53 dBA, obviates the need to use the presumed level.

JED:Noise Study

Attachments: Microphone Locations


Microphone ----- X
RW 25745
ARLETA AVE
SHELDON ST
OR D3225-980 (2)
Microphone ----- X
SHELDON ST


08734
08728
SHARP AVE
ALLEGHENY ST
U08723
Microphone ----- X
08714
SHARP AVE
08708
WICKS ST
U12500
Microphone ------- X
U12501

PUBLIC REVIEW RECORD

FOR

Sheldon-Arleta Park

W.O. E1700500

Initial Study/ Mitigated Negative Declaration

SCH #2004051066

Prepared By

CITY OF LOS ANGELES
BUREAU OF ENGINEERING

June 2004

Prior to approving a project, the decisionmaking body of the lead agency must consider the proposed negative declaraton or mitigated negative declaration together with any coments received diring the public review process. (14 CCR 15074(b)) The following describes the publication of the proposed Sheldon-Arleta Park Initial Study/ Mitigated Negative Declaration, the comments received and provides staff clarifications and responses to the comments.

Purposes and Focus of Review

Public participation is an essential part of the CEQA process. The purposes of review of negative declarations include: (a) sharing expertise, (b) disclosing agency analyses, (c) checking for accuracy, (d) detecting omissions, (e) discovering public concerns, and (f) soliciting counter proposals. In reviewing negative declarations, persons should focus on the proposed finding that the project will not have a significant effect on the environment. If persons and public agencies believe that the project may have a significant effect, they should:

(1) Identify the specific effect,
(2) Explain why they believe the effect would occur, and
(3) Explain why they believe the effect would be significant.

Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. An effect will not be considered significant in the absence of substantial evidence. Reviewing organizations should include with their comments the name of a contact person who would be available for later consultation if necessary.

If any person who is consulted with regard to a negative declaration fails to comment within a reasonable time as specified by the Lead Agency, it will be assumed, without a request for a specific extension of time, that such person has no comment to make. Although the Lead Agency need not respond to late comments, the Lead Agency may choose to respond to them.

CEQA does not require formal hearings at any stage of the environmental review process. Public comments may be restricted to written communications. If an agency provides a public hearing on its decision to carry out or approve a project, the agency should include environmental review as one of the subjects for the hearing.

Publication/Circulation

The proposed Sheldon-Arleta Park Initial Study/ Mitigated Negative Declaration was circulated for public review period, beginning on May 5, 2004, and ending on June 5, 2004. As required by CEQA, notice of intent to adopt a mitigated negative declaration was provided to interested public agencies, the state clearinghouse and the Los Angeles County Clerk.

The State Clearinghouse provided copies of the document to the following agencies for review (from May 11 to June 9, 2004): Resources Agency; Regional Water Quality Control Board, Region 4; Native American Heritage Commission; Department of Conservation; Department of Fish and Game, Region 5; Department of Parks and Recreation; Caltrans, District 7; Integrated Waste Management Board; State Water Resources Control Board, Division of Water Quality; and Department of Toxic Substances Control. The State Clearinghouse also published summary information on their website (CEQAnet).

The notice was published in the Los Angeles Times on May 6, 2004 and mailed to all persons who left addresses at any of four community meetings:

December 8, 2003 at Fernangeles Recreation Center, 8851 Laurel Cyn Blvd.
January 12, 2004 at Branford Recreation Center, 13306 Branford St.
February 5, 2004 at Vena Ave Elem School, 9377 Vena Ave.
February 26, 2004 at Francis Polytechnical High School, 12431 Roscoe Blvd.

The notice of intent was also sent via email to all persons who left email addresses at any of the four community meetings.

In addition to the required notifications, the notice was mailed to all owners and occupants of properties within 300 feet of the proposed project. The owners and occupants list was based on Los Angeles County Assessor's records as posted on the "NavigateLA" web site two weeks prior to the date of mailing.

Copies of the document were available for review at:

Sun Valley Branch Library, 7935 Vineland Ave., Sun Valley
Valley Plaza Branch Library, 12311 Vanowen St., N. Hollywood
Panorama City Branch Library, 14345 Roscoe Blvd., Panorama
City Councilman Tony Cardenas' Sun Valley Office, 8135 San Fernando Rd., Sun Valley
Bureau of Engineering website:
http:eng.lacity.org/techdocs/emg/Environmental_Review_Documents.htm

Copies of the document were available from the the Department of Public Works Bureau of Engineering website and were provided upon request to the Bureau of Engineering's Environmental Management Group.

On May 19, 2004 the Los Angeles Daily News published an article in print and on their website entitled "Panel Will Consider Its Position on Park." The article included information about where to get copies of the environmental document and where to address comments.

Clarifications and Responses to Comments

Several commenters (Comments 3, 4, 6) asked for an **environmental impact report** but did not provide any substantial evidence that the project may have a significant effect on the environment. The decision to prepare a Negative Declaration or an Environmental Impact Report is based on the expected effects of the project. The California Environmental Quality Act (CEQA) and the State CEQA Guidelines mandate preparation of a mitigated negative declaration for a project when the initial study identifies potentially significant effects, but (1) revisions are made in the project that would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and (2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment (State CEQA Guidelines Section 15070).

The existence of public controversy over the environmental effects of a project will not require preparation of an EIR if there is no substantial evidence before the agency that the project may have a significant effect on the environment. Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, does not constitute substantial evidence. Substantial evidence includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (State CEQA Guidelines Section 15064).

The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind (State CEQA Guidelines Section 15003(g)). No argument based on substantial evidence has been made that the proposed project may have a significant impact.

Several commenters (1, 2, 4) cited the existence of a **wrongful death suit** as reason to require an environmental impact report. The cited case is "Karen Cord, Joshua Chord vs City of Los Angeles, et al. Superior Court Case EC032513." Gerald Cord died on August 13, 2000 of respiratory failure due to lymphoma. Karen and Joshua Chord sued the City alleging that Gerald Cord's lymphoma and death were caused by toxins alleged to have been emitted by the Sheldon-Arleta landfill namely, methane, benzene and vinyl chloride. The trial judge found that the plaintiff's medical experts failed to provide reasonably reliable evidence of a link between exposure to the alleged toxins and lymphoma, and issued a summary judgement in favor of the City on April 15, 2003. To the extent that the lawsuit is relevant to the proposed mitigated negative declaration, the findings of the mitigated negative declaration are consistent with the court's finding.

Several commenters (Comments 2, 3, 4) cited risks from **landfill gas** or from operations at the Tujunga Spreading Ground which allegedly could force methane gas out of the landfill. These concerns are addressed in Sections 2.3 (pages 6-8), 4.3 (pp. 22-30), 4.7 and 4.8 (pp. 34-36) of the proposed mitigated negative declaration. The site shall not be used for recreation until (a) a revised Final Closure and Post Closure Maintenance Plan has been approved by the California Integrated Waste Management Board and the California Regional Water Quality Control Board, Los Angeles Region,

and (b) the Local Enforcement Agency has determined that site improvements are consistent with the approved plan (HAZ1 in the Mitigation Monitoring Program).

One commenter (Comment 4) cites Table 6 in Appendix B as evidence that "**cancer causing toxic chemical** gas is being released into the environment from the Sheldon-Arleta Landfill" and that EPA guidelines published in 2003 indicate that the risk to children from exposure to cancer causing toxic chemicals is as much as 10 times higher than adults. However, the cited data support the staff's finding that there is a less than significant risk. The City of Los Angeles Bureau of Sanitation monitors and controls gases generated by the landfill. Their quarterly reports include the results of tests for the presence of toxic chemicals, including 11 chemicals known or suspected to pose a cancer risk. The results of a recent typical analysis are shown in Table 6 (in the Initial Study and Appendix B). All but one are below detection limits if present at all. Dichloromethane, which has a Permissible Exposure Limit of 25 ppm, was detected in the gas flare outlet at a concentration of 0.00485 ppm. This is 5,000 times lower than the "Permissible Exposure Limit," the level to which workers may be repeatedly exposed, day after day, 8-hours per day, 40 hours per week without significant health risk. Furthermore, the air from the gas flare outlet would be diluted by ambient air before being encountered by a park user. Even park staff would not be exposed to these levels repeatedly, day after day, 8-hours per day, 40 hours per week. The City believes that this is substantial evidence that the proposed project will not expose the public to significant health risk.

One commenter (Comment 4) contended that the city did not provide sufficient notice prior to a community meeting held on February 26, 2004 constituted "Denial of **Due Process**" to community residents. The meeting was not mandated by CEQA and therefore has no bearing on the adequacey of the Mitigated Negative Declaration. However, we note for the record that over 71 persons attended the meeting, 30 more than any of the preceeding three public meetings. Attendees, including members of the Chamber of Commerce, represented a wide variety of viewpoints regarding future plans for the site. The environmental concerns expressed at the four public meetings are addressed in the proposed mitigated negative declaration.

The **Fire Department** provided information on the nearby fire stations and the provisions of the municipal code that would be applicable to this project (Comment 5). As stated in the the project description (page 4 of the MND), the requirements of the municipal code will be met.

The California Department of Fish and Game recommended that active nests of migratory birds be protected as required by federal and state law and also recommended measures for protection of **birds and wildlife** in general (Comment 7). Their recommendations have been incorporated into the mitigation monitoring plan (DFG1.b-c and DFG2).

The Los Angeles Department of Transportation agrees with the findings of the mitigated negative declaration regarding **traffic** but asked that Appendix A (the Traffic Study) be

modified to reflect the main text (Comment 8). This is unnecessary because the Department of Transportation's original comment letter is already appended to the Traffic Study (see Appendix G within Appendix A).

Caltrans requested additional **traffic impact** study (Comment 11) however, the information they requested is in Appendix A. Caltrans' Guide for the Preparation of Traffic Impact Studies includes threshold criteria for determining when a traffic impact study is needed and methods of determining reasonable costs of mitigation, but does not include criteria for evaluating the significance of identified impacts. The project is expected to generate 300 vehicle trips during the PM peak hour on weekdays (MND Table 15). Trip distribution is shown in Figure 2.5-1. Twenty percent (45) of the total trips (i.e., 60 trips) are expected to use Route 170 to and from the south. Fifteen percent of the total trips are expected to use Route 5 to and from the north, and ten percent (30) are expected to use Route 5 to and from the south. Based on traffic volume data published by Caltrans on their web site (2002 volumes for peak hour on Route 107 at postmile 19.72 and Route 5 at postmile 35.94 and 36.36) inflated to 2007 at 2% per year. Project traffic during the weekday PM peak hour will comprise 0.09 to 0.28 percent of the freeway traffic volume. Therefore, we conclude that the project does not risk a significant impact on freeway traffic.

South Coast Air Quality Management District (SCAQMD) commented that any modification to the existing landfill gas collection and control system, routine monitoring, and other criteria as listed in the city's current Rule 1150.1 Compliance Plan may create the need to submit a new SCAQMD Rule 1150.1 Compliance Plan or obtain a variance from the SCAQMD Hearing Board (Comment 10). The SCAQMD further commented that the city should submit an application for an Excavation Plan under SCAQMD Rule 1150 - Excavation of Landfill Sites if refuse is expected to be exposed during soil disturbance. The city will comply with the SCAQMD's regulations. We do not expect refuse to be exposed at any time.

The SCAQMD requested correction or explanation of the apparently inconsistent descriptions of the duration of construction in MND page 24, footnotes in Tables 3 and 4, and corresponding areas of Appendix B (Comment 10). Construction is expected to take about 18 months. The grading phase of construction is expected to take 12 months. The text on page 24 of the MND will be corrected.

The SCAQMD requested correction or explanation of the apparent discrepancy between the estimated unmitigated emission estimates in the MND (Tables 3 and 4 on pages 24-25) and the numbers generated by the URBEMIS 2002 output sheets in Appendix B (Comment 10). The values in Tables 3, 4 and 5 are incorrect and should be corrected to the values indicated in the URBEMIS 2002 output sheets in Appendix B as follows:

Table 3. Estimated Construction Emissions.

Estimated Emissions*		**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Average Maximum Daily Emissions	(lbs/day)	10.71	68.22	91.85	0.0	452.82
Daily Thresholds for Construction Emissions	(lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds	**(lbs/day)**	**0.0**	**0.0**	**0.0**	**0.0**	**302.82**
Average Quarterly Emissions	(tons/quarter)	0.04	0.24	0.33	0.00	6.46
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of Quarterly Thresholds	**(tons/quarter)**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

*Based on URBEMIS 2002 assuming that the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Table 4. Estimated Construction Emissions After Mitigation.

Estimated Emissions*		**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Average Maximum Daily Emissions	(lbs/day)	10.71	68.22	91.85	0.0	135.79
Daily Thresholds for Construction Emissions	(lbs/day)	75	100	550	150	150
Exceedance of Daily Thresholds	**(lbs/day)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Average Quarterly Emissions	(tons/quarter)	0.04	0.24	0.33	0.00	6.31
Thresholds for Construction Emissions	(tons/quarter)	2.5	2.5	24.75	6.75	6.75
Exceedance of SCAQMD Thresholds	**(tons/quarter)**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

*Based on URBEMIS 2002 assuming the construction period for the grading and park construction would be approximately 18 months (396 construction days).

Table 5. Estimated Operational Emissions of Criteria Pollutants (lbs/day).

Estimated Emissions	**ROC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**
Average Maximum Daily Emissions	17.74	23.35	247.89	0.22	19.61
Daily Thresholds for Operational Emissions	75	100	550	150	150
Exceedance of Daily Thresholds	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Impacts from construction would be less than significant after mitigation. Operational impacts remain insignificant.

The SCAQMD recommends that the city investigate the availability of aqueous diesel fuel and suggests alternate mitigation measures if needed (Comment 10). Mitigation measures AQ2 (use of aqueous diesel fuels) and AQ3 (diesel oxidation catalysts) were not used in the calculation of mitigation benefits and will be deleted. Additional mitigation is not needed.

The SCAQMD recommends that the city use a different protocol for air quality health risk assessments (Comment 10). The protocol used by the city is the one also used by the California Department of Toxic Substances Control and the Los Angeles Unified School District and is considered adequate for screening-level assessments.

Table 1. Errata in the May 3, 2004 Initial Study and Mitigated Negative Declaration for Sheldon-Arleta Park

Page	Erratum
3	In Footnote 1, "sight" should be "site."
10	The second "Item 1(d)" should be deleted from the Initial Study Checklist.
21	In mitigation measure LG1, correct the text to read in part "(no field or parking areas)"
21	Correct mitigation measure LG3 to read, "The maximum height of any identifying monument sign within 300 feet from residential properties shall not exceed 8 feet and shall not be lighted after closing time."
24	The last sentence of the second paragraph under "Construction Emissions" should read, "It is anticipated that project construction would occur for about 18 months; no construction activities would be conducted on Sundays or national holidays."
24-25	Revise Table 3 as indicated in Clarifications and Responses to Comments, response to SCAQMD.
25	Revise the first paragraph by deleting all but the first and last sentence. The paragraph now reads, "Table 4 shows the estimated construction-related emissions after mitigation. Impacts from construction would be less than significant after mitigation."
25	Revise Table 4 as indicated in Clarifications and Responses to Comments, response to SCAQMD.
25	Revise Table 5 as indicated in Clarifications and Responses to Comments, response to SCAQMD.
33	In mitigation measure G1, delete the word "Final" from the phrase "Regional Water Quality Control Board Final,"
35	In mitigation measure HAZ1, "Wste" should be "Waste."
36	In mitigation measure HAZ1, "Wste" should be "Waste."

AGENCIES NOTIFIED BY MAIL

Contact	Organization	Response
Permitting Branch	CA Dept Toxic Subst Control	No Comment (per phone call)
Site Mitigation	CA Dept Toxic Subst Control	No Comment (per phone call)
IGR/CEQA Branch	Caltrans District 7	Comment 11
	CA Resources Agency	
	CA Native American Heritage Commission	
	CA Dept of Conservation	No Comment (letter in file)
	CA Dept of Fish and Game, Region 5	Comment 7
	CA Dept of Parks and Recreation	
	CA Integrated Waste Management Board	
Division of Water Quality	State Water Resources Control Board	
Rodney Nelson, Sr. Engin.Geol.	L A Regional Water Quality Control Board	Comment 9
Permitting Branch	S Coast Air Quality Mgmt Dist	Comment 10
Local Government - CEQA	S Coast Air Quality Mgmt Dist	Comment 10
Neighborhood Protection Prog	L A City Attny	
Christine Whitaker	L A City Attny CNAP	
Hadar Plafkin	L A City Planning Dept	
Councilmember Cardenas	L A Council District 6	
Bur of Programs & Devel Review	L A Dept Transportation	Comment 8
Bur of Fire Prev. & Public Safety	L A Fire Dept	Comment 5
Luis Sanchez	L A Mayor's Office	
Chief Office	L A Police Dept	
Envir Health & Safety	L A Unified School District	
Janis Fries-Martinez, Principal	John Francis Polytechnic High School	
Maria Carmen Perez	Rosco Elem School	

ORGANIZATIONS NOTIFIED BY MAIL

Contact	Organization	Response
Betty R. Harris	Arleta Chamber of Commerce	Comment 4
Bill & Shirley Berg	Arleta Chamber of Commerce	Comment 4
Guy Dionne	Arleta Chamber of Commerce	Comment 4
Jose Bonilla	Arleta Chamber of Commerce	Comment 4
Ron Hall	Arleta Chamber of Commerce	Comments 1 and 4
Eugene Kert	Arleta Neighborhood Council	
T. Hendricks	Arleta Neighborhood Council	
Jim Kallas, President	Arleta Neighborhood Watch	
Arcelio Larios	Arleta Neighborhood Watch	
Harry T. Williams	Arleta Looky Loo Neighhd Watch	
Michael Marks	AYSO Area 10/V	

ORGANIZATIONS NOTIFIED BY MAIL

Contact	Organization	Response
Jeff Beckerman	AYSO Region 10/C/8	
Dale Jacobs	AYSO Section 10	Notice Returned – UAFOE
Don Gay	Brand**** Park	
Robert De Leon	Burbank Red Machine	
Andres Cruz	California Dolphins	Notice Returned -- AU
Brandon Wright	California Dolphins	
Elias Lopez III	California Dolphins	
Jeff Hernandez	California Dolphins	
Julio Granados	California Dolphins	
Lennin Medina	California Dolphins	
Jose Gonzales	Club Saint Patrick	
Clay Peet	Coach	
Chuck Sr. Turner	Communities in Schools	
Margaret Shoemaker	CPAB, Arleta Chamber & Arleta Neighborhood Council	
Lynette Grisimow	CPAB & Arleta Neighborhood Council	
Roy B. Artigas	Fernangeles Park	
Roberto Cortez	HR Futbol - Sports Promotor	
Cyndee Riding	Kids Korner & Around the Korner Child Care Ctrs	
James Eric Freedner	N Hollywood NE Neighborhood Council & Sun Valley Neighborhood Council	Comment 6
Juan Jara	Pacoima Chamber of Commerce	
Jorge Quezuda	Pacoima Neighborhood Council	
Eugene Herman	Parents of Murdered Children	Notice Returned – UAFOE
Debra Battiato	Park Advisory Council	
Adriana Frauso	Park Bums Baseball	
Cristina Carlin	Park Bums Baseball	
Dora & Jose Marquez	Park Bums Baseball	
Edgar Cordero	Park Bums Baseball	
Gustavo Garcia	Park Bums Baseball	
Heriberto Montes	Park Bums Baseball	
Joey Hernandez	Park Bums Baseball	Notice Returned – AU
Jose Gomez	Park Bums Baseball	Notice Returned – NSN
Kelly Oblek	Park Bums Baseball	
Marcos Martinez	Park Bums Baseball	Notice Returned – NSN
Marisela Perez	Park Bums Baseball	
Roberto Perez	Park Bums Baseball	
Tony Esparza	Park Bums Baseball	

ORGANIZATIONS NOTIFIED BY MAIL

Contact	Organization	Response
Yovani Rangel	Park Bums Baseball	
Jan Brown	PCNO	
Francisco Santillana	Project 2000 & Latinos Unidos	
Cirilo Sosa	Project 2000 Youth Soccer Org.	
Francisco Chavez	Project 2000 Youth Soccer Org.	
Immer Vela	Project 2000 Youth Soccer Org.	
Jose Torres	Project 2000 Youth Soccer Org.	
Jose Torres	Project 2000 Youth Soccer Org.	
Ramos Martinez	Project 2000 Youth Soccer Org.	
Elio Lastorta	San Fernando Youth Soccer	
Hal Suetsugu	S F Valley Japanese Amer Cmnty Ctr	
Jay Neuhouse	Shaw Envir.	
Mark Unruh	Shaw Envir.	
Virginia Beck	Sun Valley Area Neighborhood Council	
Jim Bridgeford	Sun Valley Baseball	
Michael Albanese	TreePeople	
Mary Benson	Tujunga Watershed Council	
Jose Rey Garcia	United Nations Soccer	
Lupe Guzman	Valley Family Tech. Project	
Irwin Silen	Valley Vote	
Lily Lee	Waste Mgmt	

INDIVIDUALS NOTIFIED BY MAIL

Name	Address	Response
Ingrid M Alvarado, et al.	12393 W Allegheny St	Notice Returned – UAFOE
Jose & Lilia Perez	12425 W Allegheny St	
Joe & Racquel Ormasa	12430 W Allegheny St	
Juan A & Teresa L Godoy	12438 W Allegheny St	
Jose & Maria Aquino	12444 W Allegheny St	
David F. Brock	12452 W Allegheny St	Notice Returned – UAFOE
Sadao A & Yoshiko Furutani	12455 W Allegheny St	
George F. Allen	12460 W Allegheny St	
Miguel A. Duran, Sr., et al.	12466 W Allegheny St	
Eulalia A. Briceno, et al.	12472 W Allegheny St	
Victor & Irma Martinez	12485 W Allegheny St	Notice Returned – UAFOE
Jorge Sanchez	13741 Archwood St	
Tony Alcala	6621 Balboa Blvd	
Caroline Corona	9601 Bartee	
Isabel Cardenas	9601 Bartee	

INDIVIDUALS NOTIFIED BY MAIL

Name	Address	Response
Gonzales	10148 Bret Ave	Notice Returned – UAFOE
Esmeralda Suarez Enciso	16423 Bryant St	
Ana De Paz	1123 W Burbank Blvd	
Carmen Perez	7322 Cartwright St	
Bryant A. Barrientos	573 Case Ave	Notice Returned – NSN
Alvaro & Ilcia Cuellar	7747 Case Ave	
Carlos Guzman	13309 Chase St	
Sherist Rodriguez	7544 N Claybeck Ave	Notice Returned – IA
Cesar Herrera	7891 Claybeck Ave	
Marylena Steinfeld	6521 Coldwater	
Neftali Tellez	8633 Columbus Ave #6	
Miriam Karasikis	7922 Craner Ave	
Isidro Sandoval	6822 N Cranford Ave	
Kotnik	8540 N Cranford Ave	
John C. & Dorothy M. Resch	8635 N Cranford Ave	
Leopoldo F & Jutta Boese	8643 N Cranford Ave	
Antonio A & Martha L Flores	8680 N Cranford Ave	
Mowatt	8688 N Cranford Ave	
Eli E. & Mary R. Munoz	8700 N Cranford Ave	
George & Maxine Strong	8703 N Cranford Ave	
Thomas J. Walsh, Tr	8706 N Cranford Ave	Notice Returned – UAFOE
Mary L Perez	8709 N Cranford Ave	
Farrell J & Elsie A & Pugh	8714 N Cranford Ave	
Ken K. & June J. Kageyama	8715 N Cranford Ave	
Jose H & Marta & Palacios	8720 N Cranford Ave	
Carl & Phyllis H Lesch, Trs	8721 N Cranford Ave	Notice Returned – UAFOE
Carlos & Sara Diaz, et al.	8726 N Cranford Ave	
Arthur & Kesablyan	8727 N Cranford Ave	
Jose & Rosa M Moreno	8730 N Cranford Ave	
John & Anna Kotnik, Trs	8731 N Cranford Ave	
Alberto & Guadalupe Astorga	8734 N Cranford Ave	
Fred N. & Momoyo P. Fuyiu	8734 N Cranford Ave	
Jose L & Susana O Perez	8737 N Cranford Ave	
Verble, Trs	8771 N Cranford Ave	
Sadao A & Yoshiko Furutani	8776 N Cranford Ave	
Verble, (Trs) Verb	8777 N Cranford Ave	
Rogelio A & Laura E Pena	8782 N Cranford Ave	
Martin & Linda L Morales	8783 N Cranford Ave	
Paul & Cynthia Obest	8788 N Cranford Ave	

INDIVIDUALS NOTIFIED BY MAIL

Name	Address	Response
Fred N & Momoyo P Fujiu	8789 N Cranford Ave	
Jose D & Socorro Falcon	8794 N Cranford Ave	
Kenzo Saito, et al.	8795 N Cranford Ave	
Jose D & Socorro Falcon	8800 N Cranford Ave	
Kenzo & Saito	8801 N Cranford Ave	
Jack C Ferrari	8803 N Cranford Ave	Notice Returned – UAFOE
Oscar & Sandoval	8803 N Cranford Ave	Notice Returned – UAFOE
Effie D. Silvey	8804 N Cranford Ave	
Helen F Gonzales	8809 N Cranford Ave	
Alfredo & Ofelia Martinez	8810 N Cranford Ave	
Tigran Zakarian	8815 N Cranford Ave	
Jesse & Fonseca	8816 N Cranford Ave	
Jesus M. Avalos, et al.	8821 N Cranford Ave	
Alberto & Lucia & Santana	8827 N Cranford Ave	
Jose A & Norma L Mora	8828 N Cranford Ave	
Silvestre B & Gutierrez	8828 N Cranford Ave	
Maximino & Gloria Camacho	8833 N Cranford Ave	
Maxine Baker (Tr) et al.	8834 N Cranford Ave	Notice Returned – UAFOE
Equilio & Maria E Rodriguez	8839 N Cranford Ave	
Raquel G. (Rampulla) Pena	736 Dale Ave	
Ismael Beowal	9918 El Dorado Ave.	
Rosa E. Arreola, et al.	428 S Fetterly Ave	
Victor Cuevas	11351 Goleta St	
Kendrick	11354 Jeff St	
Salvador Torrez	13226 W Keswick St	
Eduardo G. Salazar	8001 N Laurel Canyon Blvd #101	
Gonzalo Tejeda	1104 Lorne St #170	
Guadalupe Salinas	11040 Lorne St #226	
Humberto Valenzuela	8814 O' Melveny Ave	
Charles F. Alderete	9191 Mercedes Ave	Notice Returned – UAFOE
James Irwin	9907 Mercedes Ave	
JDW Investments Inc.	1112 Michigan Ave	
Sophia R. Velasquez	8540 Morehart Ave	
Ingrid M Alvarado, et al.	8838 N Morehart Ave	Notice Returned – UAFOE
Jesus Diaz	8838 N Morehart Ave	
Bobby G & Bonnie A Gilliam	8839 N Morehart Ave	
Delfina Campero, et al.	8844 N Morehart Ave	Notice Returned – UAFOE
Sophie Powers	8845 N Morehart Ave	
Ryan, (Trs) John & Ca	8850 N Morehart Ave	

INDIVIDUALS NOTIFIED BY MAIL

Name	Address	Response
Singleton	8851 N Morehart Ave	
Eduardo & Juana Meza	8856 N Morehart Ave	
Michael & Joan C Gyarmati	8857 N Morehart Ave	
Amparo & Sandoval	8861 N Morehart Ave	
Marcelo Herrera, et al.	8861 N Morehart Ave	
Amparo & Sandoval	8863 N Morehart Ave	
Hector & Olivia Flores, et al.	8869 N Morehart Ave	
Adolfo & Flores	8873 N Morehart Ave	
Rosa Loaiza	11962 Neerach St	
Rosa Gutierrez	11963 Neerach St	
Carmen Padilla	8700 Norris Ave	
Veronica Padilla	8700 Norris Ave	
David F. Brock	77 N Oak Knoll	
Carl & Phyllis H Lesch, Trs	22440 Paul Revere Dr	
Olivia Alvaro	13543 Relionse St	
R E Nightingale	8625 Remick	
Maria Rodriquez	8707 N Remick Ave	
Joseph T & Lupe O Mena	8713 N Remick Ave	
Eberhard L & Karin Gaulke	8721 N Remick Ave	Notice Returned – UAFOE
Luis A & Maria Juarez	8727 N Remick Ave	
Manuel & Rosa Aguilera	8733 N Remick Ave	
Herminia Et Al Palomares	8739 N Remick Ave	
Kenneth J & Schwartz	8745 N Remick Ave	
Jose E & Victoria O Conte	8751 N Remick Ave	Notice Returned – UAFOE
Jose B. & Racquel A Ormasa	8763 N Remick Ave	
Resident	8801 N Remick Ave	
Jose & Lilia Perez	8802 N Remick Ave	
Resident	8803 N Remick Ave	Notice Returned -- NSN
Murphy	8808 N Remick Ave	
Eduardo G Salazar	8809 N Remick Ave	
Rosa E. Arreola, et al.	8814 N Remick Ave	Notice Returned – UAFOE
JDW Investments Inc.	8815 N Remick Ave	
Merle F & Jennifer H Pointer	8820 N Remick Ave	
Cecilio & Maria Elena Salgado	8821 N Remick Ave	
Manuel & Maria & Ramos	8827 N Remick Ave	
Bautista, et al.	8827 N Remick Ave.	
Caroline F Harris	8828 N Remick Ave	
Gloria Et Al Padilla	8833 N Remick Ave	Notice Returned – UAFOE
Luisa & Acosta	8833 N Remick Ave	

INDIVIDUALS NOTIFIED BY MAIL

Name	Address	Response
Rafael Martinez, et al.	8834 N Remick Ave	
Rafael & Gloria & Martinez	8838 N Remick Ave	
Ismael Gonzalez C., et al.	8839 N Remick Ave	
Rafael & Gloria & Martinez	8840 N Remick Ave	
George J Hammerschmidt	8844 N Remick Ave	
Resident	8845 N Remick Ave	
Raquel G Pena	8850 N Remick Ave	
Carolina & Perez Rodriguez	8851 N Remick Ave	
Mary A Lomprey, Tr	8851 N Remick Ave	Notice Returned – UAFOE
Moreno	8855 N Remick Ave	
Shirley & Mills	8863 N Remick Ave	Notice Returned – UAFOE
Francisco Carlin	8712 Rincon Ave	
Angela Lazaro	7545 Riverton Ave	Notice Returned – UAFOE
Juan Padilla	527 N Serrano Ave #4	
Rudy Geronca	8554 Sharp Ave	
Robert C & Doris M Kendrick	8600 N Sharp Ave	
Leopoldo & Teresita Dimaguila	8608 N Sharp Ave	Notice Returned – NSN
Pitak & Kanchana Chongjai	8616 N Sharp Ave	
Robert G. & Emma L. Watters	8624 N Sharp Ave	
Adelmo & Juana Navarro	8630 N Sharp Ave	
J Cruz & Bertha A & Solorio	8650 N Sharp Ave	Notice Returned -- NSN
David & Rose M Lucchese	8660 N Sharp Ave	
David & Rose M Lucchese	8666 N Sharp Ave	
Ramiro & Sonia Larios	8672 N Sharp Ave	
Elizabeth Rogue, et al.	8678 N Sharp Ave	
David & Rose M Lucchese	8684 N Sharp Ave	Notice Returned – UAFOE
Jose A Guardado	8690 N Sharp Ave	
David & Rose M Lucchese	8696 N Sharp Ave	Notice Returned – UAFOE
Ana M Depaz	8700 N Sharp Ave	
Gary & Delores Remington	8708 N Sharp Ave	
Jose Lopez	8712 N Sharp Ave	Notice Returned – NSN
Mary A Arnone	8714 N Sharp Ave	
Ralph J. Ciaravino	8714 N Sharp Ave	
Julio Espira	8714 N Sharp Ave	
Victor & Irma Martinez	8728 N Sharp Ave	
Roberto & Hermelinda Loza	8740 N Sharp Ave	
Dagoberto & Berta Torres	8752 N Sharp Ave	Notice Returned – UAFOE
Daniel Castro	8758 N Sharp Ave	
Joel Segal, Co Tr et al.	8762 N Sharp Ave	

INDIVIDUALS NOTIFIED BY MAIL

Name	Address	Response
Joel Segal, Co Tr et al.	8764 N Sharp Ave	Notice Returned -- A U
Jose H & Maria C Hernandez	8770 N Sharp Ave	
Vernon & Ann Valadez	8776 N Sharp Ave	
Gordon & Nancy Stockton	8782 N Sharp Ave	
Gordy Stockton	8782 N Sharp Ave.	
Gyongyver & Soos	8788 N Sharp Ave	
Maxine Baker (Tr) et al.	12515 W Sheldon St	Notice Returned -- FOE
Robert E & Doris L Hurst, Trs	12519 W Sheldon St	
Robert E & Doris L Hurst, Trs	12527 W Sheldon St	
Michael N. Abins	704 S Spring St	Notice Returned -- A U
Raul Barragan	13748 Sunburst St	
Rubi Claredon	13754 Sunburst St	
Resident	8204 St. Clair Ave	
Alina Alas	9600 Sylmar Ave #33	
Greg O Stytes	343 Westlake #8	Notice Returned -- A U
Antonio A & Martha L Flores	12365 W Wicks St	
Antonio A & Martha L Flores	12369 W Wicks St	
Mercedes T. Hamilton	12405 W Wicks St	
Resident	12405 W Wicks St	
Resident	12407 W Wicks St	Notice Returned -- NSN
Adelmo & Juana Navarro	12410 W Wicks St	
Jarred, (Trs) J	12410 W Wicks St	
Leopold F & Jutta I Boese	12411 W Wicks St	
Celia Vazquez	12419 W Wicks St	
Solorio, et al.	12425 W Wicks St	
Dolores Morales	7507 Woodman Ave #12	
Maria Gonzalez	7560 Woodman Ave #G12	
Rhinon Cuevas	7960 Woodman Pl #G18	
Secretary	U S Dept Housing & Urban Devel	
David Hernandez	P.O. Box 3245	
James E. Flynn, Tr Walsh D	P.O. Box 802301	
David & Rose M. Lucchese	P.O. Box 898	

Mail Envelope Properties (409AB400.A9B : 18 : 10907)

Subject: Notice of a Mitigated Negative Declaration for Sheldon-Arleta Park (Landfill)
Creation Date: 5/6/04 2:47PM
From: "Lee Nielsen" <gorillacnote@dslextreme.com>

Created By: gorillacnote@dslextreme.com

Mr. Doty,

My name is Ron Hall, I was there at the Polytechnic High School, the night of the meeting for this matter. I asked the City Attorney's Office and the Bureau of Sanitation, about an alleged wrongful death lawsuit against this landfill and I was promised an answer and have not yet received it.

I am still patiently waiting! I am the older gentleman with the two canes. It was said by those running the meeting that if we would sign up for the information, that it would be forthcoming and it has never arrived. The face that I have received this communication means that you did not select my name from a phone book, that it was supplied for a reason and that promise was not kept.

I have proof from on-line documents, from the Bureau of Sanitation, that this was a law suit filled with the City Attorney's Delgadillo's downtown office. It is felt that since no answer to this request has been supplied for the public's knowledge, that this Mitigated Negative Declaration should be held until that time that is information is supplied to all of those who attended the meeting that night.

Respectfully,

Ron Hall/Ronald A., Hall

1. Ron Hall

Mail Envelope Properties (409AC812.76F : 23 : 18287)

Subject: Sheldon Arleta landfill?
Creation Date: 5/6/04 4:19PM
From: <Mymimi774@aol.com>

Created By: Mymimi774@aol.com

Dear Mr. Doty:

I just received word that the Sheldon/Arleta landfill is to be made in to a park. Please add our names to the list of people who oppose this move. We understand that the National Baseball League tried to make this landfill their home and finally pulled out because of all the adverse publicity. We also have heard that a wrongful death lawsuit remains because of the methane underneath the landfill. This is the same landfill that leaked methane into Poly High School causing students to become ill. It also leaked into the Anthony Building across the street. You can confirm this on the internet. Knowing all this and you still think that this is the place for children to run and play and eat. We think not!
Please tell us how Los Angeles can go ahead with this project.

Wayne and Marion Flatt
mymimi774@aol.com

2. Wayne and Marion Flatt

Mail Envelope Properties (409EDBD9.5E5 : 4 : 54757)

Subject: NOTICE OF AVAILABILITY OF A (MITIGATED) NEGATIVE DECLARATION FOR SHELDON-ARLETA
Creation Date: 5/9/04 6:32PM
From: <CandyStara@aol.com>

Created By: CandyStara@aol.com

This could of been a wonderful model of what can be done to restore our industrial areas into green parks and fields for our youth. I am 100% behind the Project, but 100% against moving foreword without an environmental impact report. The DWP spreading fields are just west of the site. When filled with water, the added pressure forces the Methane gas from the closed Sheldon-Arleta landfil eastward towards Poly High School. The DWP Rep who addressed the North Hollywood North East Neighborhood Council confirmed the problen with the added pressure and why they do not use the spreading grounds as much. What are the facts? How will this affect our students, teachers, school employees or neighborhood children?

Sincerely
Candy Stara

3. Candy Stara

Arleta Chamber of Commerce

Arleta Chamber of Commerce and Residents Association
Welcome to Arleta

AND RESIDENTS ASSOCIATION

May 13, 2004

Mr. Jim Doty, Environmental Supervisor
City of Los Angeles
Bureau of Engineering
650 South Spring Street, Room 574
Los Angeles, CA 90014

Dear Mr. Doty,

The Arleta Chamber of Commerce and Residents Association's Board of Directors unanimously has voted to oppose the Sheldon-Arleta Landfill Development (aka: Sheldon-Arleta Park) until a full Environmental Impact Report is completed and the results made available for public review. The decision was made to protect the public's health.

The Arleta Chamber of Commerce and Residents Association Board of Directors made the decision based on the following information:

Cancer causing toxic chemical gas is being released into the environment from the Sheldon-Arleta Landfill according to the City of Los Angeles Bureau of Sanitation gas monitoring reports and the Initial Study and Mitigated Negative Declaration for Sheldon-Arleta Park, W.O. E1700500, Table 6 (6 pages from back of report) dated May 3, 2004.

A full Environmental Impact Report was demanded at public meetings held at Vena Elementary School in Arleta on February 3, 2004 and Poly High School in San Valley on February 26, 2004, based on future public health concerns.

During a community meeting at Vena Elementary School in Arleta held on February 5, 2004, the public was told by a Bureau of Sanitation representative that a Negative Declaration was the same as an Environmental Impact Report. According to the California Environmental Quality Act (CEQA) there are significant differences.

The Supreme Court of California ruled on December 10, 1974, that a full Environmental Impact Report is required of cities, involving projects opposed by community residents and raising public health concerns. The court established a lower threshold for community residents seeking a full Environmental Impact Report. The Supreme Court of California ruled that the City of Los Angeles was negligent in filing a Negative Declaration on projects involving public health in the case of No Oil, Inc vs. City of Los Angeles (L.A. No. 30360).

Public Disclosure was not made at the community meetings held in February 2004 by City of Los Angeles officials regarding monitoring plans being made against "Wrongful Death Lawsuits" at the Sheldon-Arleta Landfill, Bureau of Engineering Department of Public Works, Bureau of Sanitation, Bureau of Contract Administration, Joint Board Report No. 3, November 25, 2003 and Report No. 1, August 4, 2003.

P.O. Box 341385 ARLETA, CA 91334-1385 (818) 830-0300

4. Arleta Chamber of Commerce and Residents Association

During a community meeting held at Vena Elementary School in Arleta, on February 5, 2004, the public was told by a Bureau of Sanitation representative, that "all" gases were being captured by the currently installed system located on the Sheldon-Arleta Landfill.

Public Disclosure was not made at the community meetings held in February 2004 by City of Los Angeles officials regarding "uncontrolled" release of toxic gases from the Sheldon-Arleta Landfill whenever the water table rises at the Tujunga Spreading grounds located across the street from the Sheldon-Arleta Landfill. Reference Department of Public Works, Bureau of Sanitation, Bureau of Contract Administration, Joint Board Report No. 1, April 22, 2002 and August 4, 2003.

Community opposition to the development of the Sheldon-Arleta Landfill was thwarted at the last public meeting held at Poly High School's gymnasium in Sun Valley, on February 26, 2004. Public notices were mailed (postmarked) on the day of the meeting and received the following day. City of Los Angeles officials exercised a perceived "Denial of Due Process" to community residents.

The US/Environmental Protection Agency established new guidelines on the effects of cancer causing toxic chemicals on children in 2003, which were provided to the City of Los Angeles in 2003. Here are the US/EPA published findings:

0-2 years of age, the risk is 10 times higher than adults
2-14 years of age, the risk is 3 times higher than adults

Please feel free to contact me with your questions regarding this issue at 818-768-0206 or write me c/o the Arleta Chamber of Commerce and Residents Association.

Sincerely,

Joe Bonilla
President

CC: Honorable James Hahn, Mayor, City of Los Angeles
Honorable, Ed Reyes, Council Member, City of Los Angeles, District 1
Honorable Alex Padilla, Council Member President, City of Los Angeles, District 2
Honorable, Dennis Zine, Council Member, City of Los Angeles, District 3
Honorable, Tom LaBonge, Council Member, City of Los Angeles, District 4
Honorable, Jack Weiss, Council Member, City of Los Angeles, District 5
Honorable Tony Cardenas, Council Member, City of Los Angeles, District 6
Honorable Wendy Greuel, Council Member, City of Los Angeles, District 7
Honorable, Bernard Parks, Council Member, City of Los Angeles, District 8
Honorable, Jan Perry, Council Member, City of Los Angeles, District 9
Honorable, Martin Ludlow, Council Member, City of Los Angeles, District 10
Honorable, Cindy Miscikowski, Council Member, City of Los Angeles, District 11
Honorable, Greig Smith, Council Member, City of Los Angeles, District 12
Honorable, Eric Garcetti, Council Member, City of Los Angeles, District 13
Honorable, Antonio Villaraigosa, Council Member, City of Los Angeles, District 14
Honorable, Janice Hahn, Council Member, City of Los Angeles, District 15
Honorable Rocky Delgadillo, City Attorney, City of Los Angeles
Honorable Steve Cooley, District Attorney, County of Los Angeles
Mr. Michael Bledsoe, Staff Counsel, Cal/EPA

RM. GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

May 19, 2004

To: Department of Public Works
Bureau of Engineering, Stop: 939
Attn: Jim Doty, Environmental Supervisor

From: Fire Department

Subject: **(SHELDON/ARLETA PARK)**

PROJECT LOCATION

12455 Wicks Street, Sun Valley. Area within Sheldon Street, Sharp Avenue, Wicks Street, and Arleta Avenue

PROJECT DESCRIPTION

New city park on existing city-owned 45-acre landfill; recreational facilities to include soccer fields, baseball fields, basketball courts, children's play area, splash pad, jogging path, bike path, group and individual picnic areas; other facilities to include a service facility, restrooms, concession space, and off-street parking.

The following comments are furnished in response to your request for this Department to review the proposed development:

A. Fire Flow

The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and this Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

Fire-flow requirements vary from 2,000 gallons per minute (G.P.M.) in low Density Residential areas to 12,000 G.P.M. in high-density commercial or industrial areas. A minimum residual water pressure of 20 pounds per square inch (P.S.I.) is to remain in the water system, with the required gallons per minute flowing. The required fire-flow for this project has been set at 2,000 G.P.M. from 3 fire hydrants flowing simultaneously.

B. Response Distance, Apparatus, and Personnel

The Fire Department has existing fire stations at the following locations for initial response into the area of the proposed development:

5. Los Angeles Fire Department

Fire Station No. 89
5101 N. Sepulveda Boulevard
Sherman Oaks, CA 91403
Task Force Truck and Engine Company
Paramedic Rescue Ambulance
Division 3 Headquarters
Staff – 13
Miles – 2.18

Fire Station No. 77
8943 Glenoaks Boulevard
Sun Valley, CA 91352
Paramedic Engine Company
Staff – 4
Miles – 2.61

Fire Station No. 81
14123 Nordhoff Street
Arleta, CA 91331
Single Engine Company
Paramedic Rescue Ambulance
Staff – 6
Miles – 2.73

The above distances were computed to Wicks/Arleta.

C. Firefighting Access

Access for Fire Department apparatus and personnel to and into all structures shall be required.

In order to mitigate the inadequacy of fire protection in travel distance, sprinkler systems will be required throughout any structure to be built, in accordance with the Los Angeles Municipal Code, Section 57.09.07.

No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane. To facilitate emergency access to areas of the park where there are no structures the Fire Department strongly recommends that access to all areas of the park be provided by roadways improved to the satisfaction of the Fire Department.

CITY OF LOS ANGELES

CALIFORNIA

BOARD MEMBERS OF NORTH HOLLYWOOD NORTHEAST NEIGHBORHOOD COUNCIL:
Jose Roy Garcia – President
Randal Luse – Vice-President
Jeff Brooks – Treasurer
J. Eric Freedner – Secretary
M. Stella Arevalo
Sergio Barreno
Jose Dominguez
Hardy Garcia
David Hernandez
Loretta Luse
Efrain Molina
Ernie Moscoso
Julio Cesar Pineros
Nelson Rodriguez
Richard S. Wilson

NORTH HOLLYWOOD NORTH EAST NEIGHBORHOOD COUNCIL

C/O Department of Neighborhood Empowerment
8121 Van Nuys Blvd. Ste 420
Panorama City, CA 91402

TELEPHONE: (818) 756-9628
FAX: (818) 756-9630

www.lacityneighborhoods.com

May 21, 2004

Jim Doty, Environmental Supervisor
City of Los Angeles - Bureau of Engineering
650 S. Spring Street, Room 574
Los Angeles, CA 90014

Hon. Tony Cardenas
Member, Los Angeles City Council – District 6
8135 San Fernando Road
Sun Valley, CA 91352

Re: Mitigated Negative Declaration – Sheldon-Arleta Park

Dear Mr. Doty and Councilman Cardenas:

This Neighborhood Council has met and discussed the Sheldon-Arleta Park project at its public meetings of May 13 and May 20, 2004. On May 20th, upon motion duly made and passed by a majority of the Board present: the Board of Directors of North Hollywood North East Neighborhood Council opposes this project going forward as proposed, unless an Environmental Impact Report is conducted and made known to the public.

We like the idea of a park and athletic fields being built at the site, but oppose the project at this time until an EIR can be done to assure the safety of people using the proposed facilities, particularly children.

We recognize that the Sheldon-Arleta Park is approximately two blocks outside our Neighborhood Council boundaries, but residents of our area will in all likelihood travel to the proposed park and participate in events held there, such that it is a community issue for us.

We believe that a negative declaration is not warranted under Public Resources Code, Division 13, Sec. 21000 – 21777 (California Environmental Protection Act), and call your attention specifically to Sec. 21080, 15 (c)(1), with our belief that "there IS

6. N Hollywood NE Neighborhood Council

substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment such that a negative declaration is insufficient."

Therefore, in accordance with the City's May 3, 2004 Notice, we ask that these comments be entered into the City's records on this matter, and considered by the appropriate decision-making persons for this project. You may make copies of this letter for all authorized persons.

Should you have any questions about this letter of protest, please feel free to contact us. We thank you for your courtesy and consideration.

Very truly yours,

JOSE ROY GARCIA
President,
North Hollywood North East Neighborhood Council

FROM :SCOTT HARRIS DFG FAX NO. :626 797 3170 Jun. 03 2004 09:13AM P2

State of California - The Resources Agency ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
4949 Viewridge Avenue
San Diego, CA 92123
(858) 467-4201

June 3, 2004

Mr. James Doty
City of Los Angeles Bureau of Engineering
650 South Spring Street, #574
Los Angeles, CA 91801

Draft Mitigated Negative Declaration for
Sheldon Arleta Park
SCH# 2004051066, Los Angeles County

Dear Mr. Doty:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the Draft Mitigated Negative Declaration (MND) and Initial Study (IS) for the above referenced proposed project relative to impacts to biological resources. The project proposal consists of the development of an active and passive recreational park on a 45 acre site formally used as a municipal landfill located at Sheldon and Arleta Avenue in the San Fernando Valley, City of Los Angeles. The site is adjacent to but not part of the Tejunga Spreading Grounds to the north with suburban uses surrounding the majority of the site.

The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (CEQA Section 15386) and pursuant to our authority as a Responsible Agency under CEQA Section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code Section 2050 et seq) and Fish and Game Code Section 1600 et seq.:

Impacts to Biological Resources

1. Native Nesting Birds – Page 32 of the IS states that the site contains about 250-300 trees and that potentially all of the trees will be removed depending on the final grading plan. The IS also states that there is ample opportunity to replace lost trees into the landscaping plan of the proposed park.

   a. Based upon the IS, the proposed project will remove/disturb vegetation and ground surfaces and therefore has the potential to directly impact nesting native birds species. All migratory nongame native bird species are protected by

7. Department of Fish and Game

international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918(50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA).

b. Proposed project activities (including disturbances to native and non-native vegetation, ground surfaces and man-made nesting substrates) should take place outside of the breeding bird season which generally runs from March 1- August 31 (as early as February 1 for raptors) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill (Fish and Game Code Section 86).

c. If the project activities cannot feasibly avoid the breeding bird season, the Department recommends that beginning thirty days prior to the disturbance of suitable nesting habitat the project proponent should arrange for weekly bird surveys to detect any protected native birds in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). The surveys should be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys should continue on a weekly basis with the last survey being conducted no more than three days prior to the initiation of clearance/construction work. If a protected native bird is found, the project proponent should delay all clearance/ construction disturbance activities in suitable nesting habitat or within 300 feet of nesting habitat (within 500 feet for raptor nesting habitat) until August 31 or continue the surveys in order to locate any nests. If an active nest is located, clearing and construction within 300 feet of the nest (within 500 feet for raptor nests) shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel should be instructed on the sensitivity of the area. The project proponent should record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds.

3. Mitigation Measures for Impacts to Native Birds– To mitigate for loss of native bird habitat and additional hazards to birds from the proposed project, the Department recommends:

i. use native plant materials in any project landscaping for their wildlife and water conservation values;

ii. artificial night lighting should be shielded or hooded so that light is directed to desired locations and not into landscaping areas and/or directly into the sky where light is disruptive to migrating birds and insects. Recent research indicates some types of light are less harmful to wildlife. In some studies, low-pressure sodium lights exhibit the least overall damage to wildlife. The Department therefore recommends the use of low-pressure sodium outdoor lights to reduce impacts to wildlife.

iii. place landscaping around areas where birds will not fly into windows trying to get

to the landscaping.

iv. use window frosting on windows so that they do not reflect surrounding landscaping and pose a bird collision hazard or use netting greater than ¾ inch mesh to reduce bird collisions into windows. Birds will fly into netting and bounce off before hitting window. Reflective tape also works to repel birds from windows.

v. provide trash receptacles and dumpsters with lids or other devices which prevent scavenging by mammals and birds such as crows and ravens (a problem observed by the Department within other LA City Park locations.)

vi. The following websites may offer further assistance in reducing bird hazards resulting from common building designs practices:

http://www.darksky.org International Dark-Sky Association

http://www.Flap.org

In conclusion, the Department has determined that the proposed project does not meet the criteria for de minimus under 711.2 of the Fish and Game Code. Impacts to the proposed project site may directly and/or indirectly adversely impact wildlife resources. The Department recommends that the above concerns are addressed in a mitigated negative declaration prior to lead agency approval of the proposed project.

Thank you for this opportunity to provide comment. Questions regarding this letter and further coordination on these issues should be directed to Mr. Scott Harris, Associate Wildlife Biologist, at (626) 797-3170.

Sincerely,

Morgan Wehtje for

C. F. Raysbrock
Regional Manager

cc: Ms. Morgan Wehtje
Mr. Scott Harris
HCP-Chron
Department of Fish and Game

State Clearinghouse
Sacramento

SPH:sph

JUN-3-2004 15:13 FROM:VALLEY PLANNING 818 374 4696 TO:6847B689 P:2/5

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Arleta Ave & Sheldon St
DOT Case No. SFV 04-050

Date: June 3, 2004

To: Jim Doty, Environmental Supervison II
Bureau of Engineering

From: Sergio D. Valdez, Transportation Engineer
Department of Transportation

Subject: **SHELDON-ARLETA SPORTS FIELD PARK MITIGATED NEGATIVE DECLARATION COMMENTS**

The Department of Transportation (DOT) has completed the traffic assessment for the proposed new sports field park at 8680 Arleta Avenue. The draft Mitigated Negative Declaration (MND) comments are based on DOT's Traffic Assessment dated April 8, 2004.

After a careful review of the pertinent data, DOT has determined that the Draft MND, as revised by DOT, adequately describes the project related traffic impacts of the proposed development. Although traffic generated by the proposed project is expected to significantly impact the intersection of Arleta Avenue and Sheldon Street, the project can mitigate its project traffic-related impact to a less-than-significant level by funding a proportionate share of the cost for the design and construction of the Golden State Freeway Corridor ATSAC/ATCS system. The project's proportionate share of the cost for the Golden State Freeway Corridor ATSAC/ATCS System is equal to the average ATSAC/ATCS System cost per intersection, which currently is $104,800. The Golden State Freeway Corridor ATSAC/ATCS System is fully funded and currently scheduled for completion in January 2007. The ATSAC/ATCS System has received funding from the City of Los Angeles in excess of $104,800. Therefore, due to the fact the ATSAC/ATCS improvement has been funded by the City of Los Angeles, and the city is the applicant for the Sheldon-Arleta Sports Field Park, the intersection of Arleta Avenue and Sheldon Street is mitigated to a less-than-significant level and there are no further requirements.

COMMENTS

- The main body of the Draft MND accurately describes the Arleta Avenue and Sheldon Street mitigation measure. However, Appendix A Traffic Impact Study, Section 6.0 makes mention of a proposed mitigation measure that is not approved for this project, and will not be implemented for this project. Therefore, Appendix A should be modified to accurately reflect the Draft MND main body as well as DOT's Traffic Assessment dated April 8, 2004.

- Appendix A does not accurately reflect the Level of Service (LOS) and Volume to Capacity (V/C) contained in DOT's Traffic Assessment dated April 8, 2004. Therefore Attachment A to the Traffic Assessment has also been attached to these comments, as shown below.

8. Los Angeles Department of Transportation

This determination does not include approval of the project's driveways, internal circulation, or parking scheme. Final DOT approval shall be obtained prior to issuance of any building permits. This should be accomplished by submitting detailed site and driveway plans, with a minimum scale of 1"=40', to DOT's Valley Development Review Section at 6262 Van Nuys Boulevard Suite 320, Van Nuys, CA 91401.

If you have any further questions, you may contact Kevin Ecker of my staff at (818) 374-4699.

Attachment
SV:ke
SFV 04-050 MND

ATTACHMENT A

Sheldon-Arleta Sports Field Park
Arleta Ave & Sheldon St
DOT Case No: SFV 04-050

Summary of Volume to Capacity Ratios (V/C) and Levels of Service (LOS)
June 3, 2004

PM Peak Hour

Intersection	Peak Hour	Year 2004 Existing		Year 2007 w/o Project		Year 2007 w/ Project		Project Impact	Year 2007 w/ Mitigation		Project Impact
		V/C	LOS	V/C	LOS	V/C	LOS	Δ V/C	V/C	LOS	Δ V/C
Arleta Ave & Wicks St	PM	0.443	A	0.469	A	0.509	A				
Arleta Ave & Sheldon St	PM	0.957	E	0.976	E	0.994	E	0.018*	0.894	D	-0.082
Sheldon St & Roscoe Blvd	PM	0.861	D	0.881	D	0.896	D	0.015			
Laurel Canyon Blvd & Sheldon St	PM	0.959	E	1.034	F	1.041	F	0.007			
Laurel Canyon Blvd & Wicks St	PM	0.499	A	0.523	A	0.528	A	0.005			
Arleta Ave & Roscoe Blvd	PM	0.754	C	0.779	C	0.788	C	0.009			
Hollywood 170 Fwy SB Off-Ramp & Roscoe Blvd	PM	0.762	C	0.774	C	0.781	C	0.007			
Hollywood 170 Fwy NB Off-Ramp & Sheldon St	PM	0.526	A	0.544	A	0.574	A	0.030			

* Significant Impact

Saturday Peak Hour

Intersection	Peak Hour	Year 2004 Existing		Year 2007 w/o Project		Year 2007 w/ Project		Project Impact	Year 2007 w/ Mitigation		Project Impact
		V/C	LOS	V/C	LOS	V/C	LOS	Δ V/C	V/C	LOS	Δ V/C
Arleta Ave & Wicks St	Sat.	0.146	A	0.175	A	0.218	A				
Arleta Ave & Sheldon St	Sat.	0.463	A	0.481	A	0.504	A	0.023			
Sheldon St & Roscoe Blvd	Sat.	0.739	C	0.765	C	0.780	C	0.015			
Laurel Canyon Blvd & Sheldon St	Sat.	0.601	B	0.651	B	0.668	B	0.017			
Laurel Canyon Blvd & Wicks St	Sat.	0.322	A	0.346	A	0.355	A	0.009			
Arleta Ave & Roscoe Blvd	Sat.	0.508	A	0.541	A	0.580	A	0.039			
Hollywood 170 Fwy SB Off-Ramp & Roscoe Blvd	Sat.	0.811	D	0.831	D	0.841	D	0.010			
Hollywood 170 Fwy NB Off-Ramp & Sheldon St	Sat.	0.335	A	0.348	A	0.361	A	0.013			

* Significant Impact

Mail Envelope Properties (40C5F96A.5EA : 15 : 42474)

Subject: Sheldon-Arleta Mitigated Neg Dec
Creation Date: 6/8/04 10:37AM
From: "Rodney Nelson" <RNELSON@rb4.swrcb.ca.gov>

Created By: RNELSON@rb4.swrcb.ca.gov

Jim,

Thanx for calling me this morning and reminding me of this document. I've skimmed thru it and have no comments - save to point out that section 4.8 states that the Final Closure and Post-Closure Maintenance Plan will need to be revised, and be approved by the RWQCB - as also stated under "Mitigation Measures - HAZ1 in section 4.7 immediately above section 4.8. That's where you'll get more substantial input from us.

Thanx again,

Rod

~~~~~~~~~~~~~~~~~~~~~~~~~~

Rodney H. Nelson
Senior Engineering Geologist
RWQCB - LA, Landfills
(213) 620-6119 Fax (213) 576-1323

~~~~~~~~~~~~~~~~~~~~~~~~~~

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
***For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html ***

9. California Regional Water Quality Control Bd

JUN 08 '04 03:45PM SCAQMD SSC 909 396 3324 P.1

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

FAXED: JUNE 8, 2004

June 8, 2004

Mr. Jim Doty, Environmental Supervisor
City of Los Angeles
Department of Public Works, Bureau of Engineering
650 South Spring Street, Room 574
Los Angeles, CA 90014

Draft Mitigated Negative Declaration for the Proposed 45-acre Sheldon-Arleta Park Located in Sun Valley on a Former Municipal Landfill – City of Los Angeles Bureau of Engineering

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final Mitigated Negative Declaration. The SCAQMD also appreciates the additional time the lead agency has allowed to submit comments on the proposed project.

Please provide the SCAQMD with written responses to all comments contained herein prior to the adoption of the Final Mitigated Negative Declaration. The SCAQMD would be happy to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Gordon Mize, Air Quality Specialist – CEQA Section, at (909) 396-3302, if you have any questions regarding these comments.

Sincerely,

Steve Smith

Steve Smith, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

Attachment

SS:GM

LAC040511-03
Control Number

DEPT. OF PUBLIC WORKS

Post-it® Fax Note 7671	Date 6-8-04	# of pages ▶ 5
To MR. JIM DOTY, ENV SUPV.	From GORDON MIZE	
Co./Dept. BUR. OF ENGRG.	Co. SCAQMD-CEQA	
Phone # 213-847-8694	Phone # 909-396-3302	
Fax # 213-847-8689	Fax # 909-396-3324	

10. S Coast Air Quality Mgmt Dist

Mr. Jim Doty,
Environmental Supervisor

June 8, 2004

Draft Mitigated Negative Declaration for the Proposed 45-acre Sheldon-Arleta Park Located in Sun Valley on a Former Municipal Landfill – City of Los Angeles Bureau of Engineering

1. On pages 6-8 of the Draft Mitigated Negative Declaration (Draft MND), the lead agency describes the current landfill gas collection and control system located at the current landfill site. SCAQMD staff has reviewed the current project for compliance with SCAQMD Rule 1150.1 (Control of Gaseous Emissions from Active Landfills) and any active SCAQMD permits. Currently, there is an active Rule 1150.1 Compliance Plan issued to the City of Los Angeles for the proposed project site, which requires the City of Los Angeles to conduct routine monitoring, analysis and reporting including measuring surface emissions and concentration of landfill gas (LFG) in the perimeter probes or as otherwise approved as an alternative in the plan. There are also two active SCAQMD permits: one each for the LFG collection system and the control systems. The current permitted system is comprised of 34 extraction wells, pipes, blowers and a flare. Until recently, extracted gas was piped off-site to a privately-owned energy conversion plant located at Penrose Landfill and the on-site flare system was operated only during rare circumstances when gas production was higher than normal or when the perimeter probes at Francis Polytechnic High School detected high concentrations of LFG. Currently all the LFG is flared.

   Based on the discussion of the LFG Control System pages 6-8 in the initial study, the lead agency is reminded that any modification to the existing LFG collection and control system, routine monitoring, and other criteria as listed in the lead agency's current Rule 1150.1 Compliance Plan may create the need to submit a new SCAQMD Rule 1150.1 Compliance Plan or obtain a variance from the SCAQMD Hearing Board. Upon completion of the proposed project, the lead agency should also ensure that the project's characteristics (numbers and placements of wells, probes, etc.) are consistent with the descriptions and conditions on record with the lead agency's SCAQMD permits and Rule 1150.1 Compliance Plan for the project. Permitting questions can be addressed for this type of project by contacting SCAQMD Engineering and Compliance staff at (909) 396-2477.

2. Based on the project description on pages 6-7, the lead agency might encounter former landfill refuse during excavation activities at the former landfill site. If refuse is expected to be exposed during soil disturbance, the lead agency should submit an application for an Excavation Plan under SCAQMD Rule 1150 - Excavation of Landfill Sites. Rule 1150 Excavation Plan questions can be addressed by SCAQMD Engineering and Compliance staff by calling (909) 396-2477.

Draft Mitigated Negative Declaration for the Proposed 45-acre Sheldon-Arleta Park Located in Sun Valley on a Former Municipal Landfill – City of Los Angeles Bureau of Engineering

3. Construction Emission Estimates:

   a) On page 24 of the Initial Study under Construction Emissions in paragraph two and in the attached URBEMIS 2002 construction operation output sheets in Appendix B, the construction duration period is stated as 12 months. In the footnotes to Tables 3 and 4 (Estimated Construction Emissions/Estimated Construction Emissions After Mitigation) on pages 24-25, the construction period is estimated to last 18 months. Please correct or explain this apparent discrepancy in the Final MND.

   b) The estimated unmitigated emission estimates in Tables 3 and 4 on pages 24-25 differ from the numbers generated by the URBEMIS 2002 output sheets in Appendix B. For example, the worst-case daily estimate in Table 3 for ROC is 22.65 pounds per day, NO_x - 162 pounds per day, CO - 181.19 pounds per day, and PM10 – 479.74 pounds per day compared with the URBEMIS 2002 output sheet totals for ROC estimated to be 10.71 pounds per day, NO_x – 68.22 pounds per day, CO – 91.85 pounds per day, and PM10 – 452.82 pounds per day. Please correct or explain this apparent discrepancy in the Final MND.

      This apparent discrepancy is important because if the URBEMIS 2002 output files are correct, then construction emissions would not be significant. If the results in Table 4 are correct, then construction NOx emissions would be significant. In this case, the SCAQMD disagrees with the lead agency's conclusion that NOx emissions are not significant because the emissions would be "off-set by reductions elsewhere in the air basin." This conclusion assumes that the lead agency only uses a specific number of construction equipment, the construction equipment is all owned by the lead agency and that this equipment is always operated 100 percent of the time. These assumptions, if true, should be documented in this negative declaration.

Draft Mitigated Negative Declaration for the Proposed 45-acre Sheldon-Arleta Park Located in Sun Valley on a Former Municipal Landfill – City of Los Angeles Bureau of Engineering

4. On page 29 of the initial study and in Appendix B of the Draft MND, the lead agency proposes Mitigation Measures AQ2, the use of aqueous diesel fuels in all construction equipment, where feasible. It is recommended that the lead agency investigate the availability of aqueous diesel fuel. Currently, the availability of this fuel technology is relatively limited, so it may not be available for use by the project proponent. In this situation, the lead agency would still be responsible for obtaining comparable emission reductions by other means. Alternatively, the lead agency could delete this mitigation measure and not take credit for control efficiencies associated with them. This approach could only be pursued if construction air quality impacts without this mitigation measure do not exceed the applicable significance threshold.

5. The City of Los Angeles provided a letter report, titled "Screening Human Health Risk Assessment Sheldon Arleta Landfill Proposed Sportsfield Development Los Angeles, California;" from Scott Dwyer, PhD of Kleinfelder to Mr. Michael E. Mulhern of the City of Los Angeles Department of Public Works; dated April 26, 2004 (Kleinfelder Report). The report was prepared according the Preliminary Endangerment Assessment (PEA) Guidance Manual (California Department of Toxic Substances Control [DTSC], 1994) to examine the health risk from the landfill cap by the project upon potential receptors.

   The SCAQMD suggests that the lead agency perform air quality health risk assessments according to either OEHHA guidance (http://www.oehha.ca.gov/air/hot_spots/HRAguidefinal.html#download) or guidance provided in the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 (http://www.aqmd.gov/prdas/Risk%20Assessment/RiskAssessment.html).

   a) The Kleinfelder Report estimated the particulate emission factor (PEF) using the EPA Soil Screening Guidance: User's Guide (EPA, 1996, Publication Number 9355.4-23) the Q/χ of 37.36 $g/m^2\text{-}s/kg/m^3$ value presented on page 3 of 7 in the letter report is based on an old air dispersion model (AREA-ST of the Industrial Complex Model 2 [ISC2]). The EPA approved model is Industrial Source Complex Short Term 3 (ISCST3) version 02035. It is recommended that the lead agency document that EPA currently approves of the use of these values in the Final MND for inhalation hazards.

Draft Mitigated Negative Declaration for the Proposed 45-acre Sheldon-Arleta Park Located in Sun Valley on a Former Municipal Landfill – City of Los Angeles Bureau of Engineering

b) The equation for calculating the PEF was not presented; therefore, the results could not be verified. It is recommended that the lead agency include the equations and variables used to estimate the PEF, as well as the references for values used to develop the PEF. Enough information should be provided so that the public can verify that the estimates were calculated correctly.

6. If, in the event that the lead agency, after reviewing its construction calculations for NO_x, the lead agency has determined that construction emissions from the proposed project will still exceed the SCAQMD's daily threshold for that pollutant (see Comment #3.b), the SCAQMD recommends that the lead agency require the project proponent to include the following additional mitigation measures, if feasible:

(a) Configure construction parking to minimize traffic interference.
(b) Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.
(c) Schedule construction activities that affect traffic flow on the arterial system to off-peak hour to the extent practicable.

(d) Reroute construction trucks away from congested streets, residential areas or schools.
(e) Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.
(f) Prevent vehicle idling in excess of ten minutes.
(g) Use low sulfur diesel for construction equipment.
(h) Restrict idling emissions by using auxiliary power units and electrification.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
120 SO. SPRING ST.
LOS ANGELES, CA 90012
PHONE: (213) 897-3747
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Flex your power!
Be energy efficient!

IGR/CEQA No. 040522, MND
Sheldon-Arleta Park
Vic. LA-05 / PM 36.6, LA-170 / PM R20.55
SCH # 2004051066

June 8, 2004

Mr. James E. Doty
City of Los Angeles
650 S. Spring St. #574
Los Angeles, CA 91801

Dear Mr. Doty:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project.

The project will generate 340 vehicle trips during Saturday Midday Peak Hour and 300 vehicle trips during Weekday PM Peak Hour. Many trips will be on the State facilities. Currently, SR-05 and SR-170 at the project location is operating beyond capacity during peak hours. All % distributions on freeways in Figure 2.5-1 need to be validated.

To assist us in our efforts to evaluate the impacts of this project on State transportation facilities, an additional traffic data should be prepared. We wish to refer the project's traffic consultant to our traffic study guideline Website:

http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

and we list here some elements of what we generally are expecting in the traffic study:

1. Presentations of assumptions and methods used to develop trip generation, trip distribution, choice of travel mode, and assignments of trips to State Route 05 and 170.

2. Consistency of project travel modeling with other regional and local modeling forecasts and with travel data. The IGR/CEQA office may use indices to check results. Differences or inconsistencies must be thoroughly explained.

"Caltrans improves mobility across California"

11. Caltrans District 7

3. Analysis of ADT, AM and PM peak-hour volumes for both the existing and future conditions in the affected area. This should include freeways, interchanges, and intersections, and all HOV facilities. Interchange Level of Service should be specified (HCM2000 method requested). Utilization of transit lines and vehicles, and of all facilities, should be realistically estimated. Future conditions would include build-out of all projects (see next item) and any plan-horizon years.

4. Inclusion of all appropriate traffic volumes. Analysis should include traffic from the project, cumulative traffic generated from all specific approved developments in the area, and traffic growth other than from the project and developments. That is, include: existing + project + other projects + other growth.

5. Discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. These mitigation discussions should include, but not be limited to, the following:

    - Description of Transportation Infrastructure Improvements
    - **Financial Costs, Funding Sources and Financing**
    - Sequence and Scheduling Considerations
    - Implementation Responsibilities, Controls, and Monitoring

    Any mitigation involving transit, HOV, or TDM must be rigorously justified and its effects conservatively estimated. Improvements involving dedication of land or physical construction may be favorably considered.

6. Specification of developer's percent share of the cost, as well as a plan of realistic mitigation measures under the control of the developer. The following ratio should be estimated: additional traffic volume due to project implementation is divided by the total increase in the traffic volume (see Appendix "B" of the Guidelines). That ratio would be the project equitable share responsibility.

    We note for purposes of determining project share of costs, the number of trips from the project on each traveling segment or element is estimated in the context of forecasted traffic volumes which include build-out of all approved and not yet approved projects, and other sources of growth. Analytical methods such as select-zone travel forecast modeling might be used.

    The Department as commenting agency under CEQA has jurisdiction superceding that of MTA in identifying the freeway analysis needed for this project. Caltrans is responsible for obtaining measures that will off-set project vehicle trip generation that worsens Caltrans facilities and hence, it does not adhere to the CMP guide of 150 or more vehicle trips added before freeway analysis is needed. MTA's Congestion Management Program in acknowledging the Department's role, stipulates that Caltrans must be consulted to identify specific locations to be analyzed on the State Highway System. Therefore State Route(s) mentioned in item #1 and its facilities must be analyzed per the Department's Traffic Impact Study Guidelines.

We look forward to reviewing the additional traffic data. Please work with Caltrans in providing affected traffic mitigation measures for the Sate facilities. If you have any questions, please feel free to contact me at (213) 897-3747 or Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 040522AL.

Sincerely,

CHERYL J. POWELL
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

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