# DRAFT

# INITIAL STUDY/
# MITIGATED NEGATIVE DECLARATION

# VOLUME II: APPENDICES

# CHATSWORTH PARK SOUTH
# REMEDIAL ACTION PLAN PROJECT

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County of Los Angeles, California

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# APPENDIX A
## AIR QUALITY CALCULATIONS

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# APPENDIX A: AIR QUALITY CALCULATIONS

The Air Quality section addresses the impacts of the proposed Project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. Air pollutants of concern include ozone, carbon monoxide, particulate matter, and oxides of nitrogen. This Appendix provides information to support the analysis presented in the Initial Study/Mitigated Negative Declaration ion the Air Quality Section (Section 3.3).

## Climate/Meteorology

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The community of Chatsworth is located in the San Fernando Valley portion of the City of Los Angeles, which is located within the South Coast Air Basin (SoCAB). The SoCAB incorporates approximately 12,000 square miles within four counties – San Bernardino, Riverside, Los Angeles, and Orange – including some portions of what was previously known as the Southeast Desert Air Basin. In May 1996, the boundaries of the South Coast Air Basin were changed by the California Air Resources Board (CARB) to include the Beaumont-Banning area.

The distinctive climate of the SoCAB is determined by its terrain and geographic location. The SoCAB 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.

The vertical dispersion of air pollutants in the SoCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi-permanent high-pressure zone in which the SoCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, resulting in the formation of high-level subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer, and together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.

## Air Quality Regulations, Plans and Policies

The Federal Clean Air Act (FCAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act Amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including non-attainment requirements for areas not meeting National Ambient Air Quality Standards (NAAQS) and the Prevention of Significant Deterioration (PSD) program. The 1990 Amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States.

In 1988, the State Legislature passed the California Clean Air Act (CCAA), which established California's air quality goals, planning mechanisms, regulatory strategies and standards of progress for the first time. The CCAA provides the State with a comprehensive framework for air quality

planning regulation. The CCAA requires attainment of state ambient air quality standards by the earliest practicable date. Attainment Plans are required for air basins in violation of the state ozone ($O_3$), carbon monoxide (CO), sulfur dioxide ($SO_2$), nitrogen dioxide ($NO_2$), and particulate matter (PM10 and PM2.5) standards. Preparation of and adherence to attainment plans are the responsibility of the local air pollution districts or air quality management districts.

State and federal agencies have set ambient air quality standards for certain air pollutants. NAAQS have been established for the following criteria pollutants: CO, $O_3$, $SO_2$, $NO_2$, lead (Pb), and respirable particulate matter (PM10 and PM2.5). The state standards for these criteria pollutants are more stringent than the corresponding federal standards. Table A-1 summarizes the state and federal standards.

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. The SoCAB is designated by both the state and the USEPA as a non-attainment area for $O_3$, $PM_{10}$ and $PM_{2.5}$.

**Table A-1**
Ambient Air Quality Standards for Criteria Pollutants

| Pollutant | Averaging Time | California Standard | Federal Primary Standard | Pollutant Health and Atmospheric Effects | Major Pollutant Sources |
|---|---|---|---|---|---|
| Ozone ($O_3$) | 1 hour | 0.09 ppm | NA | High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue. | Motor vehicles. |
| | 8 hours | 0.07 ppm | 0.075 ppm | | |
| Carbon Monoxide (CO) | 1 hour | 20 ppm | 35 ppm | Classified as a chemical asphyxiant, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen. | Internal combustion engines, primarily gasoline-powered motor vehicles. |
| | 8 hours | 9.0 ppm | 9 ppm | | |
| Nitrogen Dioxide ($NO_2$)[2] | Annual Arithmetic Mean | 0.30 ppm | 0.053 ppm | Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. | Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads. |
| | 1 hour | 0.18 ppm | 0.10 ppm | | |
| Sulfur Dioxide ($SO_2$) | Annual Arithmetic Mean | * | 0.03 ppm | Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight. | Fuel combustion, chemical plants, sulfur recovery plants, and metal processing. |
| | 1 hour | 0.25 ppm | 0.075 ppm | | |
| | 24 hours | 0.04 ppm | 0.14 ppm | | |
| Respirable Coarse Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean | 20 $\mu g/m^3$ | * | May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility. | Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays). |
| | 24 hours | 50 $\mu g/m^3$ | 150 $\mu g/m^3$ | | |
| Respirable Fine Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean | 12 $\mu g/m^3$ | 15 $\mu g/m^3$ | | |
| | 24 hours | * | 35 $\mu g/m^3$ | | |
| Lead (Pb) | Monthly | 1.5 $\mu g/m^3$ | * | Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction (in severe cases). | Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline. |
| | Quarterly | * | 1.5 $\mu g/m^3$ | | |
| Sulfates ($SO_4$) | 24 hours | 25 $\mu g/m^3$ | * | Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage. | Industrial processes. |

Notes: ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter
* = standard has not been established for this pollutant/duration by this entity.
Source: California Air Resources Board, updated June 2012.

### *AB32: Global Warming Solutions Act*

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as greenhouse gases (GHG) to the atmosphere. The primary source of these GHG is from fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, $CO_2$, methane ($CH_4$), and ozone ($O_3$)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming effect to a lesser extent include nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.

Assembly Bill 32 (AB32), the Global Warming Solutions Act, was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG. AB32 follows the emissions reduction targets established in Executive Order S-3-05, signed on June 1, 2005, which requires the state's global warming emissions to be reduced to 1990 levels by the year 2020 and by 80 percent of 1990 levels by year 2050. Projected GHG emissions in California are estimated at 596 million metric tones of $CO_{2e}$. In December 2007, the California Air Resources Board (CARB) approved a 2020 emissions limit of 427 million metric tonnes of $CO_{2e}$ for the state. The 2020 target requires emissions reductions of 169 million metric tones, approximately 30 percent of the projected emissions. Pursuant to the requirements of AB 32, the state's reduction in global warming emissions will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012.

In order to effectively implement the cap, AB 32 directs CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels by January 2008. The Climate Action Registry Reporting Online Tool (CARROT) was established to track GHG emissions. By January 1, 2009, CARB must prepare a plan demonstrating how the 2020 deadline can be met or earlier. However, as immediate progress in reducing GHG can and should be made, AB 32 directed CARB and the newly created California Climate Action Team (CAT) to identify a list of "discrete early action GHG reduction measures" that can be adopted and made enforceable by January 1, 2010. CAT is a consortium of representatives from state agencies that have been charged with coordinating and implementing GHG emission reduction programs that fall outside of CARB's jurisdiction. In June 2007, CARB adopted 37 early actions for reducing GHG emissions, of which three were identified as discrete early action measures. Since adoption of the initial early actions, CARB has expanded the early action list to include a total of 44 measures. In June 2008, CARB released the *Climate Change Draft Scoping Plan* (Scoping Plan) with addition GHG emission reduction measures. The draft Scoping Plan describes the proposed cap and trade program covering 85 percent of the state's GHG emissions, proposals for requiring utilities to produce a third of their energy from renewal sources, and implementation of the California Clean Car Law.[1] Several other initiatives and measures include full deployment of the Million Solar Roofs initiative, high-speed rail, water-related energy efficiency measures, and proposed regulations to reduce emissions from trucks and ships at California's ports.

[1] Implementation of the California Clean Car law includes implementation of the Low Carbon Fuel standard, which requires a waiver from the USEPA in order for California to implement.

To address GHG emission and global climate change in General Plans and CEQA documents, Senate Bill 97 (Chapter 185, 2007) requires the Governor's Office of Planning and Research (OPR) to develop CEQA guidelines on how to address global warming emissions and mitigate project-generated GHG. OPR is required to prepare, develop, and transmit these guidelines on or before July 1, 2009 and directs OPR to adopt the CEQA guidelines by January 1, 2010. In addition, for projects where GHG emissions are considered significant, the California Attorney General has prepared a fact sheet listing various mitigation measures to reduce the project's contribution to global climate change impacts.

### *Existing Air Quality*

Existing levels of ambient air quality and historical trends and projections in the community of Chatsworth, in the vicinity of the proposed Project, are best documented by measurements taken by the SCAQMD. The community of Chatsworth is located within Source Receptor Area (SRA) 6 – Reseda (West San Fernando Valley). The Reseda Monitoring Station monitors $O_3$, $NO_2$, CO and $PM_{2.5}$. Data for $PM_{10}$ is obtained from the Santa Clarita Station. The most current five years of data monitored at this monitoring station is included in Table A-2.

The data show recurring violations of both the state and federal ozone. The data also indicate that the area consistently exceeds the state $PM_{10}$ standards and federal $PM_{2.5}$ standard. The CO, $SO_2$, and $NO_2$ standard have not been violated in the last five years at this station.

**Table A-2**
Ambient Air Quality Monitoring Summary

| Pollutant/Standard | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| **Ozone** | | | | | |
| State 1-Hour ≥ 0.09 ppm (days exceed threshold) | 43 | 39 | 31 | 37 | 35 |
| Federal 8-Hour > 0.08 ppm (days exceed threshold) | 28 | 25 | 19 | 19 | 26 |
| Max. 1-Hour Conc. (ppm) | 0.129 | 0.123 | 0.135 | 0.122 | 0.130 |
| Max. 8-Hour Conc. (ppm) | 0.105 | 0.103 | 0.100 | 0.091 | 0.103 |
| **Carbon Monoxide** | | | | | |
| State 8-Hour > 9 ppm (days exceed threshold) | 0 | 0 | 0 | 0 | 0 |
| Federal 8-Hour ≥ 9 ppm (days exceed threshold) | 0 | 0 | 0 | 0 | 0 |
| Max. 8-Hour Conc. (ppm) | 2.76 | 2.88 | 2.53 | 2.17 | 2.77 |
| **Nitrogen Dioxide** | | | | | |
| State 1-Hour ≥ 0.25[2] ppm (days exceed threshold) | 0 | 0 | 0 | 0 | 0 |
| Max. 1-Hour Conc. (ppm) | 0.081 | 0.091 | 0.070 | 0.075 | 0.070 |
| **Coarse Particulates ($PM_{10}$)[1]** | | | | | |
| State 24-Hour > 50 μg/m³ (days exceed threshold) | 19 | * | * | 0 | * |
| Federal 24-Hour > 150 μg/m³ (days exceed threshold) | 6 | 0 | 0 | 0 | 0 |
| Max. 24-Hour Conc. (μg/m³) | 167 | 91.0 | 56.0 | 40.0 | 45.0 |
| **Fine Particulates ($PM_{2.5}$)** | | | | | |
| Federal 24-Hour > 65[5] μg/m³ (days exceed threshold) | * | 1 | 7 | * | 3 |
| Max. 24-Hour Conc. (μg/m³) | 43.3 | 50.5 | 39.9 | 40.7 | 39.8 |

ppm: parts per million; μg/m³: micrograms per cubic meter
*Insufficient data available to provide estimate.
[1] Data for PM10 at the Reseda Monitoring Station was not available. Data was supplemented from the Santa Clarita Monitoring Station.
Source: California Air Resources Board, accessed July 2008.

### *Sensitive Receptors*

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

# Chatsworth Park South

**Los Angeles-South Coast County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| City Park | 17 | Acre |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Statewide Average |
| **Climate Zone** | 10 | **Precipitation Freq (Days)** | 33 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Project specific information

Off-road Equipment - Project specific construction projection

Grading - project area size

Construction Off-road Equipment Mitigation -

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 11.32 | 97.74 | 59.61 | 0.12 | 137.41 | 4.74 | 142.15 | 3.58 | 4.74 | 8.32 | 0.00 | 12,444.46 | 0.00 | 0.80 | 0.00 | 12,461.34 |
| 2014 | 10.42 | 89.17 | 55.77 | 0.12 | 137.41 | 4.25 | 141.66 | 3.58 | 4.25 | 7.83 | 0.00 | 12,458.50 | 0.00 | 0.75 | 0.00 | 12,474.14 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 11.32 | 97.74 | 59.61 | 0.12 | 131.46 | 4.74 | 136.20 | 0.90 | 4.74 | 5.64 | 0.00 | 12,444.46 | 0.00 | 0.80 | 0.00 | 12,461.34 |
| 2014 | 10.42 | 89.17 | 55.77 | 0.12 | 131.46 | 4.25 | 135.71 | 0.90 | 4.25 | 5.15 | 0.00 | 12,458.50 | 0.00 | 0.75 | 0.00 | 12,474.14 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 0.15 | 0.38 | 1.41 | 0.00 | 0.26 | 0.02 | 0.27 | 0.01 | 0.02 | 0.02 | | 230.69 | | 0.01 | | 230.89 |
| **Total** | **0.15** | **0.38** | **1.41** | **0.00** | **0.26** | **0.02** | **0.27** | **0.01** | **0.02** | **0.02** | | **230.69** | | **0.01** | **0.00** | **230.89** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 0.15 | 0.38 | 1.41 | 0.00 | 0.26 | 0.02 | 0.27 | 0.01 | 0.02 | 0.02 | | 230.69 | | 0.01 | | 230.89 |
| **Total** | **0.15** | **0.38** | **1.41** | **0.00** | **0.26** | **0.02** | **0.27** | **0.01** | **0.02** | **0.02** | | **230.69** | | **0.01** | **0.00** | **230.89** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Grading - 2013

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 7.39 | 0.00 | 7.39 | 3.33 | 0.00 | 3.33 | | | | | | 0.00 |
| Off-Road | 6.04 | 46.51 | 28.61 | 0.05 | | 2.55 | 2.55 | | 2.55 | 2.55 | | 4,884.97 | | 0.54 | | 4,896.35 |
| **Total** | **6.04** | **46.51** | **28.61** | **0.05** | **7.39** | **2.55** | **9.94** | **3.33** | **2.55** | **5.88** | | **4,884.97** | | **0.54** | | **4,896.35** |

## 3.2 Grading - 2013

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 5.19 | 51.13 | 30.04 | 0.07 | 129.82 | 2.19 | 132.01 | 0.25 | 2.19 | 2.43 | | 7,404.75 | | 0.25 | | 7,410.05 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.09 | 0.10 | 0.96 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 154.74 | | 0.01 | | 154.94 |
| **Total** | **5.28** | **51.23** | **31.00** | **0.07** | **130.02** | **2.20** | **132.22** | **0.26** | **2.20** | **2.44** | | **7,559.49** | | **0.26** | | **7,564.99** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.44 | 0.00 | 1.44 | 0.65 | 0.00 | 0.65 | | | | | | 0.00 |
| Off-Road | 6.04 | 46.51 | 28.61 | 0.05 | | 2.55 | 2.55 | | 2.55 | 2.55 | 0.00 | 4,884.97 | | 0.54 | | 4,896.35 |
| **Total** | **6.04** | **46.51** | **28.61** | **0.05** | **1.44** | **2.55** | **3.99** | **0.65** | **2.55** | **3.20** | **0.00** | **4,884.97** | | **0.54** | | **4,896.35** |

## 3.2 Grading - 2013

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 5.19 | 51.13 | 30.04 | 0.07 | 129.82 | 2.19 | 132.01 | 0.25 | 2.19 | 2.43 | | 7,404.75 | | 0.25 | | 7,410.05 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.09 | 0.10 | 0.96 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 154.74 | | 0.01 | | 154.94 |
| **Total** | **5.28** | **51.23** | **31.00** | **0.07** | **130.02** | **2.20** | **132.22** | **0.26** | **2.20** | **2.44** | | **7,559.49** | | **0.26** | | **7,564.99** |

## 3.2 Grading - 2014

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 7.39 | 0.00 | 7.39 | 3.33 | 0.00 | 3.33 | | | | | | 0.00 |
| Off-Road | 5.70 | 43.58 | 27.81 | 0.05 | | 2.33 | 2.33 | | 2.33 | 2.33 | | 4,884.97 | | 0.51 | | 4,895.70 |
| **Total** | **5.70** | **43.58** | **27.81** | **0.05** | **7.39** | **2.33** | **9.72** | **3.33** | **2.33** | **5.66** | | **4,884.97** | | **0.51** | | **4,895.70** |

## 3.2 Grading - 2014

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 4.63 | 45.50 | 27.08 | 0.07 | 129.82 | 1.91 | 131.73 | 0.25 | 1.91 | 2.16 | | 7,421.29 | | 0.23 | | 7,426.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.09 | 0.09 | 0.88 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 152.24 | | 0.01 | | 152.43 |
| **Total** | **4.72** | **45.59** | **27.96** | **0.07** | **130.02** | **1.92** | **131.94** | **0.26** | **1.92** | **2.17** | | **7,573.53** | | **0.24** | | **7,578.45** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 1.44 | 0.00 | 1.44 | 0.65 | 0.00 | 0.65 | | | | | | 0.00 |
| Off-Road | 5.70 | 43.58 | 27.81 | 0.05 | | 2.33 | 2.33 | | 2.33 | 2.33 | 0.00 | 4,884.97 | | 0.51 | | 4,895.70 |
| **Total** | **5.70** | **43.58** | **27.81** | **0.05** | **1.44** | **2.33** | **3.77** | **0.65** | **2.33** | **2.98** | **0.00** | **4,884.97** | | **0.51** | | **4,895.70** |

### 3.2 Grading - 2014

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 4.63 | 45.50 | 27.08 | 0.07 | 129.82 | 1.91 | 131.73 | 0.25 | 1.91 | 2.16 | | 7,421.29 | | 0.23 | | 7,426.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.09 | 0.09 | 0.88 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 152.24 | | 0.01 | | 152.43 |
| **Total** | **4.72** | **45.59** | **27.96** | **0.07** | **130.02** | **1.92** | **131.94** | **0.26** | **1.92** | **2.17** | | **7,573.53** | | **0.24** | | **7,578.45** |

## 4.0 Mobile Detail

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.15 | 0.38 | 1.41 | 0.00 | 0.26 | 0.02 | 0.27 | 0.01 | 0.02 | 0.02 | | 230.69 | | 0.01 | | 230.89 |
| Unmitigated | 0.15 | 0.38 | 1.41 | 0.00 | 0.26 | 0.02 | 0.27 | 0.01 | 0.02 | 0.02 | | 230.69 | | 0.01 | | 230.89 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| City Park | 27.03 | 27.03 | 27.03 | 77,105 | 77,105 |
| Total | 27.03 | 27.03 | 27.03 | 77,105 | 77,105 |

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW |
| City Park | 8.90 | 13.30 | 7.40 | 33.00 | 48.00 | 19.00 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| City Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

### 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| City Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 6.2 Area by SubCategory

### Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

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# APPENDIX B
## TRAFFIC AND TRANSPORTATION TECHNICAL MEMORANDUM

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URS

# Technical Memorandum

Date: March 2013

To: Mr. Paul Davis
Environmental Specialist
City of Los Angeles Department of Recreation and Parks

From: Kavita Mehta, Jaime Guzmán, and Gene Kim
URS Corporation

Subject: **Chatsworth Park South Remedial Action Plan**
**Traffic and Transportation Technical Memorandum**

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# INTRODUCTION

The purpose of this Traffic and Transportation Technical Memorandum is to present results of the qualitative traffic impact assessment during construction in support of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Chatsworth Park South Remedial Action Plan Project (proposed Project) located at 22360 West Devonshire Street in the community of Chatsworth in the City of Los Angeles, County of Los Angeles, CA.

# PROPOSED PROJECT

## Overview

The Chatsworth Park South Remedial Action Plan Project (proposed Project) is the implementation of a Remedial Action Plan (RAP) to address contaminated soil at Chatsworth Park South (Project site), which is a City of Los Angeles Department of Recreation and Parks (LADRAP or City of Los Angeles) facility encompassing approximately 72 acres in the northwestern portion of the San Fernando Valley. The proposed Project involves containment of contaminated soils through capping of the contaminated soil surface. The RAP was prepared pursuant to the terms of a Voluntary Cleanup Agreement (VCA) between the City of Los Angeles Department of Recreation and Parks (City of LA) and the State of California Department of Toxic Substances Control (DTSC). The proposed Project includes activities associated with removal of approximately 12,900 cubic yards (cu. yd.) of contaminated soils and their disposal in appropriate landfills, import of approximately 27,800 cu. yd. of clean soil and approximately 16,750 cu. yd. of aggregate to be used for the capping process, installation of a drainage system, removal of approximately 100 non-heritage, non-protected trees, replacement of these trees with at least an equal number of native trees, installation of an irrigation system for the new planting, and installation of fencing around trees and areas where capping will not be implemented. The proposed Project also includes rough grading the top 18 inches of soil to destroy the existing burrowing animal network and to prevent future settlement by installing a layer of steel hardware cloth beneath the capping base. Portions of the Project site with steep terrain will not be remediated and will be fenced off to restrict public access. The proposed Project does not include demolition of existing Project site structures or construction of new facilities at the Project site. Refer to the IS/MND for a more detailed discussion of the proposed Project.

# REGULATORY SETTING

## State-Level Mandates

### *California Environmental Quality Act*

This Technical Memorandum has been prepared in accordance with the California Environmental Quality Act (CEQA), as amended (Public Resources Code § 21000, et. seq.) and the State CEQA Guidelines (California Administrative Code § 15000, et. seq.). This document summarizes and addresses the results of the initial study prepared to determine if any significant environmental effects would occur from the proposed Project. The particular proposed Project is anticipated to have CEQA evaluated traffic impacts for short-term, project-related construction impacts (namely traffic impacts of heavy vehicles hauling dirt on-site to off-site) only.

CEQA requires state and local agencies to identify the significant environmental impacts of their actions, including potential significant impacts to transportation and traffic systems, and to avoid or mitigate those impacts, when feasible. Potential impacts to transportation and traffic systems and facilities could occur if reasonably foreseeable future actions were to result in any of the following:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the roadway system;
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access
- Result in inadequate parking access
- Result in a conflict with adopted policies, plans or programs supporting alternative transportation

## Local-Level Mandates

### *City of Los Angeles Traffic Impact Analysis Standards*

The City of Los Angeles Traffic Study Policies and Procedures contains specific guidelines determining the initial assessment for traffic impact analysis requirements. The City of Los Angeles uses, unless otherwise specified, the Transportation Research Board Critical Movement Analysis CMA, or Circular 212 Planning Method, to analyze traffic-operating conditions at study intersection(s). The CMA is a method that determines the volume-to-capacity (V/C) ratio on a critical lane basis and level of service (LOS) associated with each V/C ratio at a signalized intersection. V/C ratios are measured on a scale of 0.000 to 1.000 (Refer to Table 2 below).

### *Los Angeles County Metro Congestion Management Plan*

As required by statute, the Los Angeles County Congestion Management Plan (CMP) includes a system of highways and roadways with minimum levels of service performance measurements designated for highway segments and key roadway intersections; a performance element that includes performance measures to evaluate multimodal system performance; a transportation demand management (TDM) element that promotes alternative transportation strategies; and a land use analysis program to analyze the impacts of local land use decisions on regional transportation.

# METHODOLOGY

During construction of the proposed Project, there will be short-term increase in project-related traffic and demand for roadway capacity and alternate routes associated with construction activities due to the nature of the anticipated work per the RAP. Short-term construction impacts would be evaluated for traffic and transportation impacts requiring the following methodology, analytical tools and assumption inputs.

- Identification of borrow pit locations and estimation of soil material (truck trips) that may need to be transported on local roads.
- Calculation of roadway capacities and LOS for baseline and with project construction conditions. All roadway analysis scenarios will be evaluated using Highway Capacity Manual 2000 Analysis Procedures and Methodology.
- Assessment of potential project related roadway closures resulting from project construction activities. Alternate routes will be identified and provided as needed and impacts to emergency response time will be evaluated.

The City of Los Angeles does not have a minimum required LOS threshold; rather, it determines significance of transportation impacts based on "with project" LOS. The City of Los Angeles has adopted the following criteria for determining a significant transportation impact, as provided in **Table 1** below:

**Table 1**
Significant Transportation Impact Criteria

| LOS | Final Volume-to-Capacity Ratio | Project-Related Increase in Volume-to-Capacity |
|---|---|---|
| C | >0.701 - 0.800 | Equal to or greater than 0.040 |
| D | >0.801 - 0.900 | Equal to or greater than 0.020 |
| E | >0.901- 1.000 | Equal to or greater than 0.010 |
| F | >1.000 | Equal to or greater than 0.010 |
| Source: Los Angeles Department of Transportation Traffic Study Policies and Procedures, May 2012. | | |

A CMP analysis is required if a project is anticipated to add 50 or more AM or PM weekday peak-hour vehicle trips at a CMP intersection. A significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥0.02), causing LOS F (V/C >1.00). If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥0.02). The lead agency may apply more stringent criteria if desired. If CMP arterial segments are being analyzed rather than intersections, the study area must include all segments where the proposed project will add 50 or more peak-hour trips (total of both directions).

# EXISTING CONDITIONS

## Major Roads and Regional Access

### *State Route 118*

State Route (SR-) 118, also known as the Ronald Reagan Freeway, is located approximately 1.5 miles north of the Project site. SR-118 is an east-west freeway extending from the Pacoima community of the City of Los Angeles west to the City of Moorpark in Ventura County where it merges with SR-23. The segment of State Route 118 that is located in the vicinity of the Project site consists of four through lanes and one high-occupancy vehicle (HOV) lane in both the eastbound and westbound directions, with lane widths varying from 11 to 12 feet and an existing k-rail median. Ramp access to SR-118 in the vicinity of the Project site exists at Topanga Canyon Boulevard. SR-118 not only provides regional access to/from the vicinity of the Project site, but also supports heavy vehicle movements to/from the Simi Valley region to the County of Los Angeles.

### *Topanga Canyon Boulevard (State Route 27)*

Topanga Canyon Boulevard, also designated as SR-27, is a CMP-monitored roadway that is located approximately 0.5 mile east of the Project site. Numerous roadways that intersect Topanga Canyon Boulevard, such as Devonshire Street, as well as the SR-118 westbound on/off-ramp, are considered CMP-monitored stations. The segment of Topanga Canyon Boulevard located in the vicinity of the Project site is considered a major highway class II consisting of two through lanes in each direction with a striped two-way left turn median. Topanga Canyon Boulevard runs north-south in the Project vicinity and provides direct on/off-ramp access onto SR-118 to the north and U.S. Highway 101 (US-101) to the south. Topanga Canyon Boulevard is a City of Los Angeles designated scenic highway.

### *Devonshire Street*

Devonshire Street is a collector street running east-west consisting of one through lane in each direction within the vicinity of the Project site, and is the primary road that provides access to the Project site. On-street parking is available on Devonshire Street in the vicinity of the Project site. As Devonshire Street spans eastbound, it expands to a secondary highway arterial consisting of two through lanes in each direction and on-street parking availability.

# IMPACT ASSESSMENT

## Construction Schedule

The proposed transport scenario during the construction phase, per the Transportation Plan, is estimated to consist of approximately 2,900 transport truckloads of import material and 890 truckloads of impacted export soil and waste. This estimate is based on each truckload weighing approximately 23 tons with a total import material weight of approximately 66,700 tons and total export waste material weight of approximately 20,500 tons. The export waste material will require offsite disposal at an approved facility that is located within close proximity to the Project site, to limit any potential traffic impacts.

The proposed transport scenario estimates approximately 55 total days for the combined effort of removing impacted soil from the Project site and backfilling excavation to the Project site. It is anticipated that there would be approximately average 70 total daily trips while the peak hour trips may average between 9 to12 trips. The total daily trips would remain throughout the duration of the transport scenario but the peak hour trips may vary depending on excavation and backfill transport schedules.

## Proposed Haul Routes

A proposed transport route for leaving and entering the Project site during the transport scenario would rely on utilizing site access to/from Devonshire Street, Topanga Canyon Boulevard and SR-118 (**Figure 1**). Although numerous potential routes can be utilized from the Project site to/from the soil import and disposal facilities, it is most likely that the heavy vehicles would utilize the aforementioned haul route. The proposed transport route is determined based on minimal truck travel time on surface streets while also minimizing travel distances.

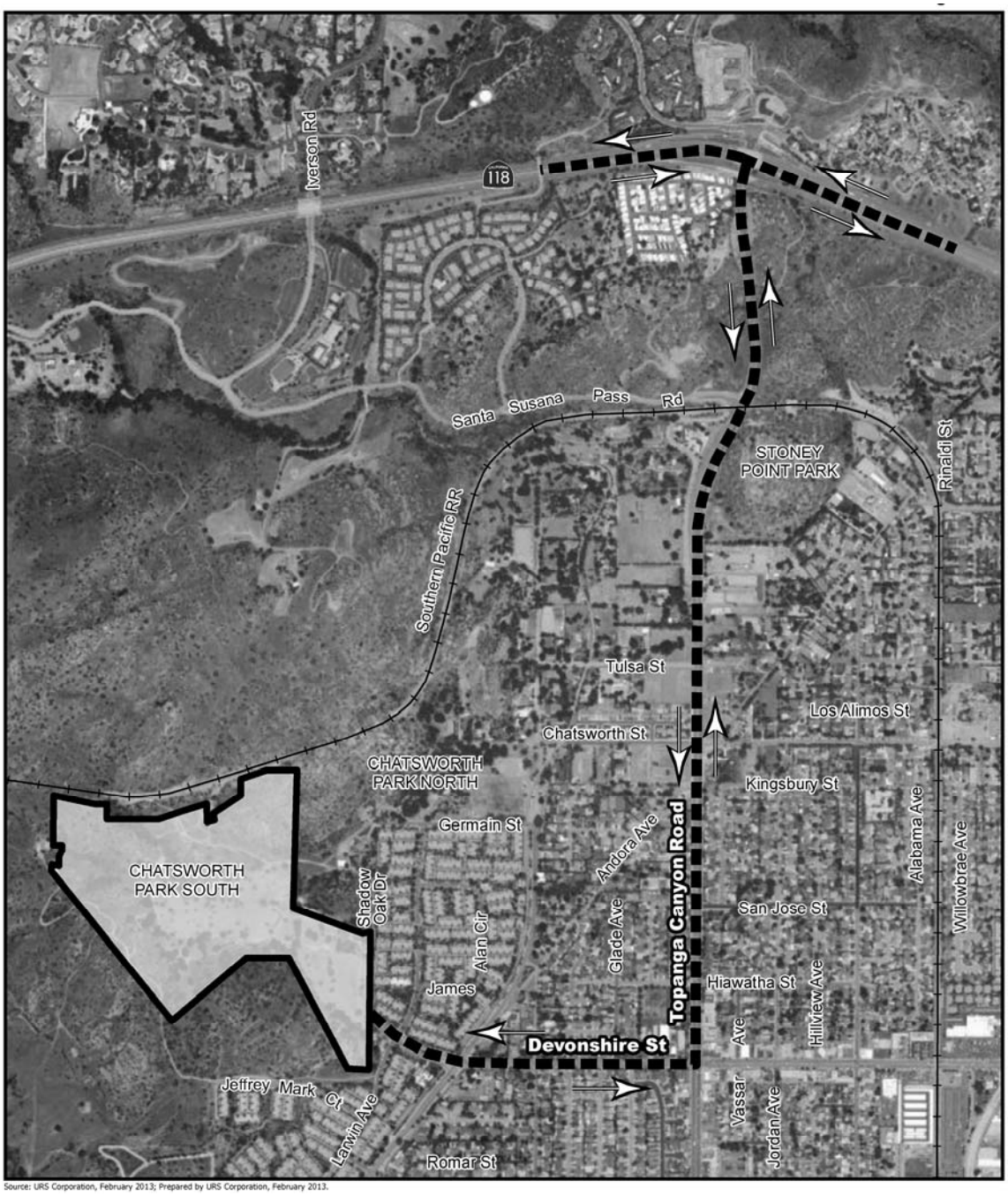


**Figure 1**
Proposed Haul Route

## Construction Impacts

### *Potential traffic impacts substantially exceeding the traffic load and capacity of the existing roadway system*

Construction of the proposed Project would cause a temporary increase in truck traffic relative to the existing traffic load and capacity (vehicle trips or V/C rations) along proposed transport haul routes of Devonshire Street and Topanga Canyon Boulevard. This temporary increase would be partially due to vehicle trips associated with workers travelling to and from the Project site, but also due to the proposed hauling activities. These increases are anticipated to be relatively minor and temporary in nature. Vehicular access along any and all transport haul routes would be maintained during construction via a City of Los Angeles Traffic Handling Plan which will maintain full function of roadways and allow unimpeded two-way traffic flow.

The proposed Project would increase truck traffic by approximately 9 to 12 peak hour truck trips per day and average 70 total daily truck trips for 55 total days. Under City of Los Angeles traffic impact thresholds for intersections, an initial assessment of traffic impacts is deemed unnecessary should the peak hour trips not exceed 25 trips in either the AM or PM peak hours wherein the adjacent intersections are currently operating at LOS E or F. Therefore, as anticipated truck trips are far below the minimum threshold, potential construction traffic impacts related to substantially exceeding the traffic load and capacity of the existing roadway system would be less than significant.

### *Potential traffic impacts exceeding standards established by County congestion management agency for designated roads or highways*

Construction of the proposed Project may cause a temporary increase in truck traffic relative to the existing traffic load and capacity along proposed transport haul routes that incorporate county congestion management agency designated roadways. This temporary increase in traffic would be a result of the limited number of vehicle trips or the V/C ratio on roads due to construction-related vehicles in the immediate Project area. These increases would be relatively minor and temporary in nature and are not expected to exceed significance thresholds within County congestion management agency's designated roadways.

The proposed Project would increase truck traffic by approximately 9 to 12 peak hour truck trips per day and average 70 total daily truck trips for 55 total days. Under CMP traffic impact thresholds for intersections, an initial assessment of traffic impacts is deemed unnecessary should the peak hour trips not exceed 50 trips in either the AM or PM peak hour. Furthermore, under CMP traffic impact thresholds for arterial segments, an initial assessment of traffic impacts is deemed unnecessary should the peak hour trips not exceed 50 peak hours trips as a total of both directions. Therefore, as anticipated truck trips are far below the minimum threshold, potential construction traffic impacts related to substantially exceeding the traffic load and capacity of the existing roadway system would be less than significant.

### *Substantial increase in hazards due to design features*

Construction of the proposed Project may cause a temporary increase in truck traffic (approximately 9 to 12 peak hour truck trips per day and average 70 total daily truck trips) however, it is anticipated that roadways and intersections would remain functional and not be altered from current existing design features. Construction of the proposed Project would maintain existing functionality of the proposed haul routes, Devonshire Street and Topanga Canyon Boulevard. The construction period traffic is not anticipated to cause damage to the existing pavement along the proposed haul route. However, in the event that there is damage to the pavement that can be directly associated to the construction traffic of the proposed Project, the Transportation Plan of the proposed Project [1] states:

> "A [work notice] will be given to the [City of Los Angeles Department of Transportation,] Bureau of Street Service[s], Enforcement/Inspection Division with copies of the transportation route maps at least three (3) days prior to initiation of the proposed [RAP].

[1] URS Corporation, *Remedial Action Plan Chatsworth Park South 22360 West Devonshire Street Chatsworth, California*, March 2013.

> All street surfaces along the transportation [haul] routes will be routinely inspected and, if necessary, maintained or repaired by the Contractor, during implementation of the tasks. The Contractor is responsible for cleaning streets from spilled soils and the final cleanup after completion of field activities, such as washing paved areas…"

Therefore, potential construction traffic impacts related to substantial increase in hazards due to design features would be less than significant.

### *Inadequate emergency access*

The proposed Project will not remove or add any access points to/from the Project site. Access for emergency vehicles is currently considered adequate and will remain as such during the construction phase. In addition, the proposed Project design would be approved by the City of Los Angeles Fire and Police Departments for incorporation of adequate emergency access. Therefore, potential construction traffic impacts related to inadequate emergency access would be less than significant.

### *Inadequate parking*

The existing Project site has parking available which will be sufficient to accommodate construction period parking needs. Also, parking would be available for construction activities in parts of the park which are not currently accessible to the general public. Construction of the new parking lot in the vicinity of the existing parking lot may require temporary closure of this area. However, parking along other parts of the park would be allowed, and this closure would be temporary. Finally, parking along the proposed haul routes (Devonshire Street and Topanga Canyon Boulevard) would not be removed or reduced during construction. Therefore, potential construction traffic impacts related to inadequate parking would be less than significant.

### *Conflicts with adopted policies, plans or programs supporting alternative transportation*

The construction activities associated with the proposed Project would be primarily limited to the Project site with the exception of the hauling of soil and waste. As discussed above, the number of daily haul trips would not exceed standards or significantly increase traffic load on local roads. Consequently, the proposed Project would not conflict with existing or proposed alternative transportation. Therefore, potential construction traffic impacts related to conflicts with adopted policies, plans or programs supporting alternative transportation would be less than significant.

## Operational Impacts

The proposed Project would not change the land use of the Project site. Operations of the proposed Project would include maintenance of the capped areas and monitoring. These activities would be completed on a regular but not daily basis, and therefore, impacts to traffic load and capacity would be negligible. No significant operational traffic impacts would occur.

## Mitigation Measures

No mitigation measures are required as all potential impacts related to traffic and transportation would be less than significant.

## REFERENCES

City of Los Angeles Department of Transportation. 2012. Traffic Study Policies and Procedures, May 2012.

Los Angeles County Metropolitan Transportation Authority, 2010. 2010 Congestion Management Program for Los Angeles County. 2010

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# APPENDIX C
## CULTURAL RESOURCES TECHNICAL MEMORANDUM

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URS

# Technical Memorandum

Date: March 2013

To: Mr. Paul Davis
Environmental Specialist
City of Los Angeles Department of Recreation and Parks

From: Kavita Mehta, Jaime Guzman, Jeremy Hollins, and Justin Castells
URS Corporation

Subject: **Chatsworth Park South Remedial Action Plan Project**
**Cultural Resources Technical Memorandum**

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## INTRODUCTION

The following Cultural Resources Technical Memorandum summarizes the historical resources investigations completed in support of the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Chatsworth Park South Remedial Action Plan Project (proposed Project) located at 22360 West Devonshire Street in the community of Chatsworth in the City of Los Angeles, County of Los Angeles, CA. This study was conducted in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) Guidelines using criteria outlined in Section 5024.1 of the California Public Resources Code (CPRC). Based on this study's findings, no historical resources, defined as significant historic built-environment and historic and prehistoric archaeological resources were identified within the Project site. However, ground-disturbing activities, such as grading or excavation, could potentially disturb previously unidentified subsurface resources, and mitigation measures have been provided to lessen potential significant impacts to a level of less than significant with mitigation incorporation.

## PROPOSED PROJECT

The Chatsworth Park South Remedial Action Plan Project (proposed Project) is the implementation of a Remedial Action Plan (RAP) to address contaminated soil at Chatsworth Park South (Project site), which is a City of Los Angeles Department of Recreation and Parks (LADRAP or City of Los Angeles) facility encompassing approximately 72 acres in the northwestern portion of the San Fernando Valley. The proposed Project involves containment of contaminated soils through capping of the contaminated soil surface. The RAP was prepared pursuant to the terms of a Voluntary Cleanup Agreement (VCA) between the City of Los Angeles Department of Recreation and Parks (City of LA) and the State of California Department of Toxic Substances Control (DTSC). The proposed Project includes activities associated with removal of approximately 12,900 cubic yards (cu. yd.) of contaminated soils and their disposal in appropriate landfills, import of approximately 27,800 cu. yd. of clean soil and approximately 16,750 cu. yd. of aggregate to be used for the capping process, installation of a drainage system, removal of approximately 100 non-heritage, non-protected trees, replacement of these trees with at least an equal number of native trees, installation of an irrigation system for the new planting, and installation of fencing around trees and areas where capping will not be implemented. The proposed Project also includes rough grading the top 18 inches of soil to destroy the existing burrowing animal network and to prevent future settlement by installing a layer of steel hardware cloth beneath the capping base. Portions of the Project site with steep terrain will not be remediated and will be fenced off to restrict public access. The proposed Project does not include demolition of existing Project site structures or construction of new facilities at the Project site. Refer to the IS/MND for a more detailed discussion of the proposed Project.

# REGULATORY SETTING

## State-Level Mandates

In considering the significance of effects under CEQA, the significance of the resource itself must first be determined. At the state level, consideration of significance as an "important archaeological resource" is measured by the cultural resource provisions considered under CEQA Sections 15064.5 and 15126.4, and the draft criteria regarding resource eligibility to the California Register of Historical Resources (CRHR).

Generally, under CEQA, a historical resource (these include the historic built-environment and historic and prehistoric archaeological resources) is considered significant if it meets the criteria for listing on the CRHR. These criteria are set forth in CEQA Section 15064.5, and defined as any resource that:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated with lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5 of CEQA also assigns special importance to human remains and specifies the procedures to use when Native American remains are discovered. These procedures are detailed under Public Resource Code (PRC) Section 5097.98.

Effects to "unique archaeological resources" are also considered under CEQA, as described under PRC Section 21083.2. A unique archaeological resource implies an archaeological artifact, object, or site about which it can be clearly demonstrated that—without merely adding to the current body of knowledge—there is a high probability that it meets one of the criteria listed below.

- The archaeological artifact, object, or site contains information needed to answer important scientific questions and there is a demonstrable public interest in that information.
- The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type.
- The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource indicates an archaeological artifact, object, or site that does not meet the above criteria. Effects to non-unique archaeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

In many cases, determination of a resource's eligibility to the National Register of Historic Places (NRHP) or CRHR (or its uniqueness) can be made only through extensive research. As such, the best alternative to preserve historic resources is the "no action alternative." However, because this alternative is not always feasible, any project should consider alternatives or mitigation measures to lessen the effects to these resources. Where possible, to the maximum extent possible, effects to resources should be avoided. If the resource meets the criteria of eligibility to the CRHR, it will be formally addressed under Sections 15064.5 and 15126.4 of CEQA.

Under CEQA, a project potentially would have significant effects if it would cause substantial adverse change in the significance of an historical resource (i.e., a cultural resource eligible to CRHR, or archaeological resource defined as a unique archaeological resource which does not meet CRHR criteria), or would disturb human remains.

## Local-Level Mandates

### *City of Los Angeles Environmental Quality Act Guidelines*

The City of Los Angeles Environmental Quality Act Guidelines (1981, amended July 31, 2002) contains three articles. Article I declares that in 2002, the City adopted the State CEQA Guidelines, contained in title 15, California Code of Regulations, sections 150000 et seq, and incorporates all future amendments and additions to those guidelines as may be adopted by the State. Article II defines the activities by City agencies that are exempt from the requirements of CEQA. Article III defines the categorical exemptions, which are organized by classes of projects which have been determined not to have a significant effect on the environment and are therefore exempt from the provisions of CEQA.

### *City of Los Angeles General Plan, Conservation Element*

The City of Los Angeles General Plan Conservation Element (2001) contains the following objectives pertaining to the protection of the archaeological, paleontological, cultural, and historic resources in the City of Los Angeles:

- Protect the City of Los Angeles' archaeological and paleontological resources for historical, cultural, research and/or educational purposes.
- Protect important cultural and historical sites and resources for historical, cultural, research, and community educational purposes.

The identification and protection of significant archaeological and paleontological sites and/or resources known to exist or identified during land development, demolition, or property modification activities is to be achieved through the establishment of permit processing, monitoring, enforcement, and periodic revision of regulations and procedures by the departments of Building and Safety, City Planning, and Cultural Affairs.

### *City of Los Angeles, Cultural Heritage Masterplan (2000)*

The Cultural Heritage Masterplan is a multifaceted historic preservation strategy to address major preservation issues and to guide and coordinate preservation activity in the City of Los Angeles. The document establishes a citywide framework for developing public policies involving the preservation and care of the City of Los Angeles' cultural resources and contains numerous important policy recommendations on historic preservation in the City of Los Angeles. Many of these recommendations shaped the creation and early work of the Office of Historic Resources.

### *City of Los Angeles, Administrative Code, Division 22, Chapter 9, Article 1 (Ordinance No. 178,402) (1962)*

Ordinance No. 178,402 established the Cultural Heritage Commission to identify and protect architectural, historical, and cultural buildings, structures, and sites that are important to the City of Los Angeles' history and cultural heritage. The Cultural Heritage Commission oversees the designation and protection of Historic-Cultural Monuments. Historic-Cultural Monuments are defined as any site (including significant trees or other plant life located on site), building, or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites, that:

- Reflect or exemplify the broad cultural, political, economic, or social history of the nation, state, or community; or
- Are identified with historic personages or important events in the main currents of national, state, or local history; or
- Embody the distinguishing characteristics of an architectural-type specimen, are inherently valuable for a study of a period, style, or method of construction; or
- Are notable works of a master builder, designer, or architect whose individual genius influenced his or her age.

***City of Los Angeles, Municipal Code, Chapter I, Article 2, Section 12.20.3 (Ordinance No. 175,891), 1979 (amended 2004)***

Ordinance No. 175,891 contains procedures for the designation and protection of new Historic Preservation Overlay Zones (HPOZs) for any area of the City of Los Angeles with buildings, structures, landscaping, natural features, or lots having historic, architectural, cultural, or aesthetic significance. The ordinance describes the powers and duties of HPOZ boards and the review processes for projects within HPOZs. The City of Los Angeles Planning Department establishes and administers HPOZs in concert with the city council.

# METHODOLOGY

## CHRIS Records Search

On February 13, 2013, a records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton, through the California Historical Resources Information System (CHRIS) cultural resources database for relevant previously recorded cultural resources and previous investigations completed for the Project site. Information reviewed by URS included location maps for previously recorded trinomial and primary prehistoric and historic sites and isolates, site record forms and updates for cultural resources previously identified, previous investigation boundaries and National Archaeological Database (NADB) citations for associated reports, historic maps, and historic addresses. Also reviewed were the properties listed on/as the California Points of Historical Interest (CPHI), California Historical Landmarks (CHL), California Historical Resources Inventory (CHRI), local registries of historic properties, CRHR, and NRHP.

The CHRIS identified one previously recorded resource within the Project site (CA-LAN-2174H). CA-LAN-2174H was recorded in 1993 by Western Mojave Survey Association. It is a small storage building constructed of quarried stone, known as "The Old Powder House" (**Figure 1**). The site form for this resource states that the property is not in its original location, but considered an integral part of Bannon's Quarry, and may be the last standing structure constructed of native rock from quarry. The property was noted as representing an important aspect of the area's quarrying and construction activities.

**Figure 1**
Old Powder House (East Elevation) Facing West
Source: URS Corporation, 2013.

The Project site is surrounded to the north, east, and west by the Santa Susana Pass State Historic Park, which includes the Old Santa Susana Stage Road (NRHP 7400517) and the Hill-Palmer Homestead Acre (Los Angeles Historic Cultural Monument 133), is located adjacent to the Project site to the south. Neither the Old Santa Susana Stage Road nor the Hill-Palmer Homestead Acre is located within the Project site.

In addition, the CHRIS search identified two previously conducted investigations within Chatsworth Park South (CHRIS IDs: LA-9070 and LA-3499). LA-9070 was a Phase I cultural resources investigation prepared for Envivom Corporation in 2005, as part of the Twin Lake Pump Project, which constructed a 1,400-foot pipeline through the Chatsworth Park South area. The survey identified two prehistoric sites (CA-LAN-640 and CA-LAN-1028), one historic archaeological site (CA-LAN-1126H), and five architectural history resources (CA-LAN-2174, 19-150421, 19-15-434, 19-150436, and 19-150437). Of the cultural resources identified by LA-9070, only one resource (CA-LAN-2174H) is located within the Project site.

LA-3499 was a large-scale linear sample survey performed for the Metropolitan Water District West Valley Project in 1994 in the counties of Los Angeles and Ventura. The Metropolitan Water District West Valley Project assessed impacts from nearly 70 miles of pipelines in the West Valley portion of Metropolitan Water District's service area, which includes the Santa Clara River Valley, the City of Moorpark, the San Fernando Valley, and Simi Valley areas. The survey identified three prehistoric sites (CA-VEN-899, CA-VEN-478, PJE-2), one built environment resources (PJE-1), and two isolates, none of which are located within the Project site.

Additionally, the CHRIS identified two relevant previously conducted investigations (56-000895 and LA-11164) in the vicinity of the Project site. Investigation 56-000895 is the NRHP Registration Form for the Old Santa Susana Stage Road. The resource was entered into the NRHP on January 10, 1974. The report identifies the Old Santa Susana Stage Road as visible from Chatsworth Park South; however, location maps in the report indicate that the trail itself is not located within the Project site. LA-11164 is an ethnohistoric overview for the Santa Susana Pass State Historic Park. LA-11164 identifies seven archaeological sites located within the Santa Susana Pass State Historic Park (CA-LAN-357, CA-LAN-901, CA-LAN-21, CA-LAN-89, CA-LAN-448, CA-LAN-449, and CA-LAN-1126), none of which are located within the Project site. Lastly, no formal or informal cemeteries or burials were identified by the CHRIS or based on a review of historic maps and literature.

Confidential Appendix A includes the signed request letter for the SCCIC record search, the record search maps of the previously conducted investigations and previously recorded resources, and relevant information from pertinent investigations and site forms1.

## Native American Coordination

The Native American Heritage Commission (NAHC) was contacted on February 11, 2013, to request a search of the Native American Sacred Lands File to determine the presence of Native American sacred sites within the Project site. A list of Native American contacts that may have some knowledge of known cultural resources or sacred sites within the Project site was also requested. The NAHC responded on February 28, 2013, indicating their records search failed to identify the presence of Native American cultural resources in the immediate project area. In addition to the response letter, the NAHC also provided a Native American contact list identifying six Native American tribes and individuals/organizations that may have knowledge of cultural resources within the Project Area. Correspondence letters are provided in Confidential Appendix A.

[1] The content of Appendix A contains confidential cultural resources location information and has been supplied to the City of Los Angeles under separate and confidential cover. The distribution of this material should be restricted to those with a need to know. Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources should be kept confidential. The legal authority to restrict cultural resource information is in California Government Code 6254.1.

# EXISTING CONDITIONS

## Physiography and Geology

The Project site is situated in the northwestern portion of the San Fernando Valley, an alluvial sediment-filled basin approximately 23 miles long and 12 miles wide. It is bounded on the north by the San Gabriel and Santa Susana Mountains, on the west by the Simi Hills, on the south by the Santa Monica Mountains, and on the east by the Verdugo Mountains (Refer to **Figure 1**). Sediments within the northwestern portion of the San Fernando Valley are characteristically fine-grained alluvial deposits derived from the Santa Monica Mountains and Los Angeles River deposits (Norris and Webb 1990). The lithology is overlain by the San Emigdio sandy loam. San Emigdio sandy loam is well drained and has moderate infiltration rates. A review of the Los Angeles Sheet of the Geologic Atlas of California revealed the Project site is underlain by Alluvium (Qal) consisting of Quaternary deposits commonly formed from fluvial, lake, playa, and terrace deposits. These last formations are generally conducive to sediment build-up and burial.

A review of the Soil Survey Geographic Database Soil Series for the Los Angeles Area, West San Fernando Area (CA676) revealed that the Project site consists primarily of San Emigdio-Urban Land Complex which occupies 0 to 2 percent slopes and exhibits a restrictive layer at greater than 80 inches depth. It is associated with summit deposits and young, alluvial fan formations. The profile is Sandy loam from 0 to 19 inches below surface; and Sandy loam and Coarse sandy loam from 19 to 77 inches below surface (USDA 2012)

The second dominant soil series is Mocho Urban Land Complex which occupies 0 to 2 percent slopes and exhibits a restrictive layer at greater than 80 inches depth. It is associated with fans and backslopes derived from young alluvium. The profile is Loam from the surface to 67 inches below the surface.

## Regional Prehistory

The San Fernando Valley presents an interesting adaptation zone, nestled between two dominant environments; the inland Mojave Desert and the coastal Los Angeles Basin. Although there is evidence of multiple cultural groups utilizing the San Fernando Valley, cultural groups utilizing desert adaptations and influences are dominant over those cultural groups distinctively derived from coastal dwelling neighbors such as the Gabrieliño, whose northern territorial border included areas of the San Fernando Valley (Bean and Smith, 1978:538, 548). Therefore, the discussion of regional prehistory that is applicable to the Project site is similar to what has been extensively documented for the Western Mojave Desert and Santa Clarita Valley cultural groups,

Recently, Sutton and others (2007) proposed a cultural-ecological chronological framework based on climatic periods (e.g., Early Holocene) "to specify spans of calendric time and cultural complexes (e.g., Lake Mojave Complex) to denote specific archaeological manifestations that existed during (and across) those periods." The new sequence draws heavily from Warren and Crabtree (1972; 1986) and Warren (1984), as well as from the vast body of recent archaeological research conducted in the region.

### *Pleistocene (ca. 10,000 to 8000 cal B.P.)*

The earliest cultural complex recognized in the Mojave Desert is Clovis, aptly named for the fluted projectiles often associated with Pleistocene megafaunal remains. Arguments for pre-Clovis Paleoindian human occupation in the Mojave Desert rely on relatively sparse evidence and unpublished data, although in light of the growing body of evidence suggesting a pre-Clovis occupation of the Americas, the argument cannot simply be ruled out. Paleoindian culture is poorly understood in the region due a relative dearth of evidence stemming from handful of isolated fluted point discoveries and one presumed occupation site on the Shore of China Lake. Archaeologists tend to interpret the available data as evidence of a highly mobile, sparsely populated, hunting society that occupied temporary camps near permanent Pleistocene water sources.

### *Early Holocene (ca. 8000 to 6000 cal B.P.)*

Two archaeological patterns are recognized during the Early Holocene: the Lake Mojave Complex (sometimes referred to as the Western Pluvial Lakes Tradition), and the Pinto Complex. The Lake Mojave Complex is characterized by stemmed projectile points of the Great Basin Series, abundant bifaces, steep-edged unifaces and crescents. Archaeologists have also identified, in less frequency, cobble-core tools and groundstone implements. The Pinto Complex, on the other hand, is distinguished primarily by the presence of Pinto-style projectile points. Although evidence suggests some temporal overlap, the inception of the Pinto Complex is assigned to the latter part of the Early Holocene and is generally considered a Middle Holocene cultural complex.

During this period, the Lake Mojave cultural complex utilized more extensive foraging ranges, as indicated by an increased frequency of extralocal materials. Spheres of influence also expanded, as potential long-distance trade networks were established between desert and coastal peoples. Groups were still highly-mobile, but they practiced a more forager-like settlement-subsistence strategy. Residential indicate more extensive periods of occupation and recurrent use. In addition, residential and temporary sites also indicated a diverse social economy, characterized by discrete workshops and special-use camps (e.g., hunting camps). Diet also appears to have diversified, with a shift away from dependence upon lacustral environments such as lakeside marshes, to the exploitation of multiple environments containing rich resource patches.

### *Middle Holocene (ca. 7000 to 3000 cal B.P.)*

The Pinto Complex is the primary cultural complex in the Mojave Desert during the Middle Holocene. Once thought to have neatly succeeded the Lake Mojave Complex, a growing corpus of radiocarbon dates associated with Pinto Complex artifacts suggest that its inception could date as far back into latter part of the Early Holocene. Extensive use of toolstone other than obsidian and high levels of tool blade reworking were characteristic of this complex and the earlier Lake Mojave Complex. A reduction in toolstone source material variability, however, suggests a contraction of foraging ranges that had expanded during the Early Holocene. Conversely, long-distance trade with coastal peoples continued uninterrupted, as indicated by the presence of Olivella shell beads.

The most distinguishing characteristic of the Pinto Complex is the prevalence of ground stone tools, which are abundant in nearly all identified Pinto Complex sites. The emphasis on milling tools indicates greater diversification of the subsistence economy during the Middle Holocene. Groups increased reliance on plant processing while continuing to supplement their diet with protein from small and large game animals.

Recent archaeological research in the Mojave Desert suggests there was a greater degree of regional cultural diversity during the Middle Holocene than once previously thought. Sutton et al. (2007) have proposed a new Middle Holocene cultural complex associated with sites exclusively located at Twentynine Palms in the southeastern Mojave Desert. Artifacts recovered from Deadman Lake Complex sites, such as Olivella Dama from the Sea of Cortez, and contracting-stem and lozenge shaped projectiles similar to those recovered from Ventana Cave in Arizona, may suggest closer cultural contact with Southwest Archaic cultures than Pinto cultures to the north and west. However, it is also possible that the proposed complex simply reflects a technologically distinct segment of the Pinto, rather than a distinct culture.

### *Late Holocene (ca. 2000 cal B.P. to Contact)*

The Late Holocene in the greater southern California region is characterized by increases in population, higher degrees of sedentism, expanding spheres of influence, and greater degrees of cultural complexity. In the Mojave Desert, the Late Holocene is divided into several cultural complexes; namely the Gypsum Complex (2000 cal B.C. to cal A.D. 200), the Rose Spring Complex (cal A.D. 200 to 1100), and Late Prehistoric Complexes (cal A.D. 1100 to contact).

The Gypsum Complex is defined by the presence of side-notched (Elko series), concave-based (Humboldt series), and well-shouldered contracting stem (Gypsum series) projectile points. Other indicative artifacts include quartz crystals, paint, rock art, and twig figures, which are generally associated with ritual activities. Warren (1984) considers the appearance of these artifact types at Gypsum Complex sites as evidence of the Southwest's expanding influence in the region. Conversely, Sutton and others (2007) opt to associate Gypsum sites, which tend to cluster in the northern Mojave Desert, with temporal sequences modeled for the adjacent Great Basin. It is most likely, however, that the Gypsum Complex was exposed to various cultural influences stemming from long-distance exchange and social interaction networks that linked groups occupying the Mojave Desert to those on the Pacific Coast, in the American Southwest, and the Great Basin.

The Rose Spring Complex can also be defined by the presence distinct projectile points (i.e., Rose Spring and Eastgate series) and artifacts, including stone knives, drills, pipes, bone awls, milling implements, marine shell ornaments, and large quantities of obsidian. Of greater significance, however, are the characteristic advancements in technology, settlement strategies, and evidence for expanding and diverging trade networks.

The Rose Spring Complex marks the introduction of the bow and arrow weapon system to the Mojave Desert, likely from neighboring groups to the north and east. As populations increased, groups began to consolidate into larger, more sedentary residential settlements as indicated by the presence of well-developed midden and architecture. West and north of the Mojave River, increased trade activity along existing exchange networks ushered in a period of relative material wealth, exhibited by increased frequencies of marine shell ornaments and toolstone, procured almost exclusively from the Coso obsidian source. East and south of the Mojave River, archaeological evidence suggests there was a greater influence from Southwest and Colorado River cultures (i.e., Hakataya; Patayan).

Between approximately A.D. 1100 and contact, a number of cultural complexes emerged that archaeologists believe may represent prehistoric correlates of known ethnographic groups. During the Late Prehistoric Cultural Complex material distinctions between groups was more apparent, as displayed by the distribution of projectile point styles (e.g., Cottonwood vs. Desert Side-notched), ceramics, and lithic materials. Long-distance trade continued, benefiting those occupying "middleman" village sites along the Mojave River where abundant shell beads and ornaments, and lithic tools were recovered from archaeological contexts. Later on, however, trade in Coso obsidian was significantly reduced as groups shifted focus to the procurement of local silicate stone.

The Late Prehistoric Cultural Complex was also a time of increasing regional influence and territorial expansion. Warren (1984) noted "strong regional developments" in the Mojave Desert that included Anasazi interest in turquoise in the Mojave Trough, Hakatayan (Patayan) influence from the Colorado River, and the expansion of Numic Paiute and Shoshonean culture eastward. These developments led Sutton (1989) to propose that a number of interaction spheres were operating in the Mojave Desert during the Late Prehistoric. Sutton (1989) delineated interaction spheres based on the distribution of projectile point styles, ceramics, and obsidian and argued that the spheres broke along geographical lines that reflected the territorial boundaries of known ethnohistoric groups.

## Ethnography

The Tataviam are a Native American group that resided in and around the area encompassing the Project site. The name "Tataviam" means, "People who Face the Sun." The Tataviam belong to the family of Serrano people who migrated down into the Antelope, Santa Clarita, and San Fernando Valleys some time before 450 A.D. They settled into the upper Santa Clara River Drainage. Some Tataviam settlements in the Santa Clarita and upper valleys were Nuhubit (Newhall); Piru-U-Bit (Piru); Tochonanga, which is believed to have been located at the confluence of Wiley and Towsley Canyons; and the very large village of Chaguibit, the center of which is buried under the Rye Canyon exit of I-5. The Tataviam also lived where Saugus, Agua Dulce, and Lake Elizabeth are located today. This places the Serrano among the larger "Shoshonean" migration into southern California that occurred 2,000 to 3,000 years ago (King and Blackburn 1978;535-537).

The Tataviam people lived primarily on the upper reaches of the Santa Clara River drainage system, east of Piru Creek, but they also marginally inhabited the upper San Fernando Valley, including present day San Fernando and Sylmar (which they shared with their inland Tongva/Gabrieleño neighbors). The traditional Tataviam territory lies primarily between 1,500 and 3,000 feet above sea level. Their territory also may have extended over the Sawmill Mountains to include at least the southwestern fringes of the Antelope Valley, which they apparently shared with the Kitanemuk, who occupied the greater portion of the Antelope Valley. The Tataviam were hunters and gatherers who prepared their foodstuffs in much the same way as their neighbors. Their primary foods included yucca, acorns, juniper berries, sage seeds, deer, the occasional antelope, and smaller game such as rabbits and ground squirrels. There is no information regarding Tataviam social organization, though information from neighboring groups shows similarities among Tataviam, Chumash, and Gabrieleño ritual practices. Like their Chumash neighbors, the Tataviam practiced an annual mourning ceremony in late summer or early fall which would have been conducted in a circular structure made of reeds or branches. At first contact with the Spanish in the late 18th Century, the population of this group was estimated at less than 1,000 persons. However, this ethnographic estimate of the entire population is unlikely to be accurate, since it is based only on one small village complex and cannot necessarily be indicative of the entire population of Tataviam. Given the archaeological evidence at various Tataviam sites, as well as the numbers incorporated into the Spanish Missions, pre-contact population and early contact population easily exceeded 1,000 persons (King and Blackburn 1978;535-537).

The Tataviam people lived in small villages and were semi-nomadic when food was scarce. The Tataviam were hunter-gathers who were organized into a series of clans throughout the region. Jimsonweed, native tobacco, and other plants found along the local rivers and streams provided raw materials for baskets, cordage, and netting. Larger game was generally hunted with the bow and arrow, while snares, traps, and pits were used for capturing smaller game. At certain times of the year, communal hunting and gathering expeditions were held. Faunal resources available to the Mojave Desert dwelling Serrano included deer, mountain sheep, antelope, rabbit, small rodents, and several species of birds (quail being their favorite). Meat was generally prepared by cooking in earth ovens, boiling, or sun-drying. Cooking and food preparation utensils consisted primarily of lithic (stone) knives and scrapers, mortars and metates, pottery, and bone or horn utensils. Resources available to the Mojave Desert-dwelling Tataviam included honey mesquite, piñon nuts, yucca roots, mesquite, and cacti fruits (King and Blackburn 1978;535-537).

These resources were supplemented with roots, bulbs, shoots, and seeds that, if not available locally, were traded for with other groups. Labor was divided between the sexes. Men carried out most of the heavy but short-term labor, such as hunting and fishing, conducted most trading ventures, and had as their central concerns the well-being of the village and the family. Women were involved in collecting and processing most of the plant materials and basket production. The elderly of both sexes taught children and cared for the young (King and Blackburn 1978;535-537).

## Project Site History

The Project site is located within Chatsworth Park South, which is almost entirely surrounded by Santa Susana Pass State Historic Park. Both parks were established in the late 20th century and share a common early history tied to the Santa Susana Pass Stage Road, early homesteading, the construction of the railroad, and the movie industry. Portions of history related to the Santa Susana Pass State Historic Park have been extracted from a California Department of Parks and Recreation history, unless otherwise noted (California State Parks 2010).

The Santa Susana Pass, where the Simi Hills meet the Santa Susana Mountains, is a largely undisturbed landscape that contains part of a historic transportation corridor between Missions San Buenaventura and San Fernando. The steep road through the Santa Susana Mountains was originally a trail created by the travels of game animals and used by Native Americans to track and hunt them. Spanish colonists used the trail for horses, *carrettas* (ox carts), and herding livestock. Between 1850 and 1861, Native American laborers widened the trail over the pass to accommodate stagecoaches and flat-bottomed mud wagons. The Santa Susana Pass

Stage Road as it is now known was once a segment of the famous Butterfield Overland Stage Route, and was also used by Wells, Fargo & Company as a route between Los Angeles and Santa Barbara. The trail's precipitous drop earned the name "Devil's Slide" (California State Parks 2010).

The Santa Susana Pass Stage Road stage road is now part of a 174-acre NRHP-listed property (designated 1974) that consists of the stage route, historic features and deposits, and prehistoric village site remains, all within the boundaries of the Santa Susana Pass State Historic Park and to the southwest of Chatsworth Park South (California Department of Parks and Recreation 2007).

In the early 1900s, a railroad line connecting the cities of Los Angeles and San Francisco was constructed through the area and railroad tunnels were built within portions of the present day-Santa Susana Pass State Historic Park and within the northern edge of the present day-Chatsworth South Park (Foundation for the Preservation of the Santa Susana Mountains N.d.)

The area's sandstone bedrock gives a wide-open "badlands" look, and has been used as the background for many western films and television programs. The 500-acre Spahn Ranch, located within the Santa Susana Pass State Historic Park's northern boundary, was one of several "movie ranches" in the area. Between the late 1940s and the late 1960s, dozens of films and television shows, including *The Lone Ranger, Roy Rogers,* and *Bonanza* episodes, were filmed here. The ranch was also the residence of notorious Charles Manson and his followers in 1968 and 1969. In 1970, a wildfire destroyed all of the buildings associated with the former Spahn movie ranch (California State Parks 2010).

The California Department of Parks and Recreation acquired portions of the future Santa Susana State Historic Park in 1979 with additional acquisitions following into the late 1990s. The California State Park and Recreation Commission officially named and classified approximately 670 acres of land surrounding Chatsworth South Park as a State Historic Park in 1998 (California Department of Parks and Recreation. 2007).

Most of the land that is now Chatsworth Park South was originally settled by James David and Rhoda Jane Hill in 1886. A 1.3-acre chain-link fenced portion of the southeastern most corner of the Chatsworth South Park contains the Minnie Hill Palmer House Museum, which was one of the area's original homesteads. James Hill drove a dynamite wagon and was a fruit peddler, while Rhoda Hill washed and ironed for the men who built the railroad tunnels and their children helped. The family planted a garden and fruit trees and farmed the land. Their daughter Minnie Hill Palmer spent most of her life on the ranch, returning after she was married with her family. Between 1890 and 1900 a shed composed of quarried stone was constructed on the property to house dynamite that was used during the construction of the Santa Susana Pass.

In the mid-20th century, portions of Chatsworth Park South were owned by television star Roy Rogers, who had a skeet and trap shooting range on the property (Love 2011a, 2011b). A review of historic aerials for the years 1952, 1959, 1969, 1977, 1980, 2003, and 2005 for the Chatsworth South Park, available at NETR Online (accessed February 2013). The shooting range is first visible in a 1952 historic aerial and has been greatly expanded by a 1959. It is no longer present by 1977 (NETR Online 1952, 1959, 1969, 1977). Between 1977 and 1980 the area has been developed as a park and the recreational building, basketball court, tennis court, and parking area are all visible (NETR Online 1980). Between 1980 and 2003 a playground was constructed adjacent to the recreational building and a second playground was constructed north of the tennis court (NETR Online 1980). Between 2003 and 2005 the park appears unchanged (NETR Online 2003, 2005). Topographic maps for the property are available for 1925, 1930, 1939, 1943, 1948, 1953, 1958, 1964, 1965, 1967, 1970, 1979, 1980, 1984, and 1992 at NETR Online. Topographic maps from 1925, 1948, 1930, and 1939 depict 3 buildings located in the Project site (NETR Online 1925, 1948, 1930). One building is visible on the topographic maps from 1953, 1958, 1965, 1970, 1984, and 1992 (NETR Online 1953, 1958, 1965, 1970, 1984, and 1992). No buildings are depicted within the Project site on topographic maps from 1943, 1964, 1967, 1979, and 1980 (NETR Online 1943, 1964, 1967, 1979).

The "Homestead Acre," as the 1.3-acre parcel of Chatsworth Park South is also known, is all that is left of the original 230-acre Hill-Parker ranch. The Chatsworth Historical Society preserved the remaining 1.3 acres of the family homestead as a historic monument. The property become Los Angeles City Cultural Monument No. 133 and was listed in the National Register of Historic Places in 1979. It opened to the public as a local museum in 1980 (Watson 2010).

Chatsworth Park South was established in 1973. Chatsworth Park South contains trails, picnic facilities, and Chatsworth Recreation Center that includes indoor and outdoor basketball courts, children's play area, indoor gymnasium, a stage, and tennis courts. Chatsworth Park South has been closed since February 2008 due to contamination from lead ammunition left behind from the use of the property as a shooting range.

Per the aerial photography review, Chatsworth Park South has undergone numerous changes that have included the removal and construction of several site improvements. These changes have disrupted the spatial relationship, visual narrative, and historic-period appearance of Chatsworth Park South from its historic origins as part of a homestead and later as a firing range. Relevant data from the background research is included in Appendix B.

## Architectural History Assessment

On February 14, 2013, URS investigators completed an architectural history survey of the Project site. The following is an architectural discussion of the existing structures within the Project site. The Project site is a park and consists of 20th-Century recreational building, playground facilities, a basketball court, a tennis court, picnic areas, and a storage shed. The existing buildings and structures do not appear to be arranged in a visual hierarchy or have a specific datum; rather, buildings were sited near one another based primarily on their functions. The Project site is primarily covered with open field with some pavement and hardscape. The Project site consists of the following major features:

- A Recreational Building (constructed between 1977 and 1980);
- North Playground (constructed between 1980 and 2003);
- South Playground (constructed between 1980 and 2003);
- Basketball Court (constructed between 1977 and 1980);
- Tennis Court (constructed between 1977 and 1980);
- Old Powder House (constructed between 1890-1900) ;
- Remains of a Shooting Range Firing Line (constructed between 1952 and 1959)

The Recreational Building was constructed between 1977 and 1980 (NETR Online 1977, 1980). It is a two-story structure with a rectangular plan (**Figure 2**). The Recreational Building is characterized by its varied roof line including steep-pitched, flat, and shed roofs. The Recreational Building is clad in stucco and has multiple entrances on all façades. The Recreational Building is less than 50 years old and, therefore, not considered from the historic-period.

**Figure 2**
View of Existing Recreational Building Facing Northwest
Source: URS Corporation, 2013.

The North Playground was constructed adjacent to the Recreational Building between 1980 and 2003 (NETR Online 1980, 2003). The North Playground is characterized by playground equipment on hardscape (**Figure 3**). The North Playground is less than 50 years old and, therefore, not considered from the historic-period.

**Figure 3**
View of Existing North Playground Facing Southeast
Source: URS Corporation, 2013.

The South Playground was constructed south of the recreational center between 1980 and 2003(NETR Online 1980, 2003). The South Playground is characterized by playground equipment on hardscape (**Figure 4**). The South Playground is less than 50 years old and, therefore, not considered from the historic-period.

**Figure 4**
View of Existing South Playground Facing East
Source: URS Corporation, 2013.

The Basketball Court was constructed southwest of the recreational center between 1977 and 1980 (NETR Online 1977, 1980). The Basketball Court is characterized by a rectangular hardscape court with two basketball nets located on the east and west end of the court (**Figure 5**). The Basketball Court is less than 50 years old and, therefore, not considered from the historic-period.

**Figure 5**
View of Existing Basketball Courts Facing East
Source: URS Corporation, 2013.

The Tennis Court was constructed in the southeast of the recreational center between 1977 and 1980 (NETR Online 1977, 1980). The Tennis Court is characterized by a large hardscape area divided into two tennis courts enclosed by a chain link fence (**Figure 6**). The Tennis Court is less than 50 years old and, therefore, not considered from the historic-period.

**Figure 6**
View of Existing South Playground, Facing East
Source: URS Corporation, 2013.

The Old Powder House was constructed between 1890 and 1900 (URS 2013), and is constructed of quarried stone and features a non-historic front gabled roof of corrugated metal (**Figure 7**). The east façade of the Old Powder House features a single bay entrance filled with a non-historic metal door. The continuous use of the Project site over time has resulted in drastic alterations to the surrounding environment and it no longer reflects the period in which the Old Powder House was constructed. As noted earlier, the Old Powder House was recorded in 1994 as CA-LAN-2174 and, though not in its original location, was considered an integral part of Bannon's Quarry, and may be the last standing structure constructed of native rock from quarry. The Old Powder House was noted as representing an important aspect of the area's quarrying and construction activities. While the Old Powder House may be associated with a significant event or person, the Old Powder House no longer conveys its historic integrity aspects of workmanship, design, feeling, and setting, materials have not been retained due to the replacement of the door and roof, and major changes to the surrounding environment from the formation of Chatsworth Park South and its related landscaping and other improvements. Further, while the Old Powder House is from the historic-period, the proposed Project will not result in the demolition, destruction, relocation, or alteration of the Old Powder House nor will it cause further losses to aspects of the building's historic integrity.

**Figure 7**
View of Old Powder House (South Elevation) Facing North
Source: URS Corporation, 2013.

The Shooting Range Firing Line was constructed between 1952 and 1959 (NETR Online 1952, 1959). What remains of the Shooting Range Firing Line is a concrete sidewalk that is arranged north to south located west of the recreational center (**Figure 8**). The continuous use of the Project site over time has resulted in drastic alterations to the surrounding environment and it no longer reflects the period in which the Shooting Range Firing Line was constructed. All visual indicators that connect the Project site with its previous use as a firing range, with the exception of what remains of the Shooting Range Firing Line, are no longer extant. While the remains of the Shooting Range Firing Line is from the historic-period, the proposed Project will not result in the demolition, destruction, relocation, or alteration of this structure nor will it cause further losses to aspects of the Shooting Range Firing Line's historic integrity.

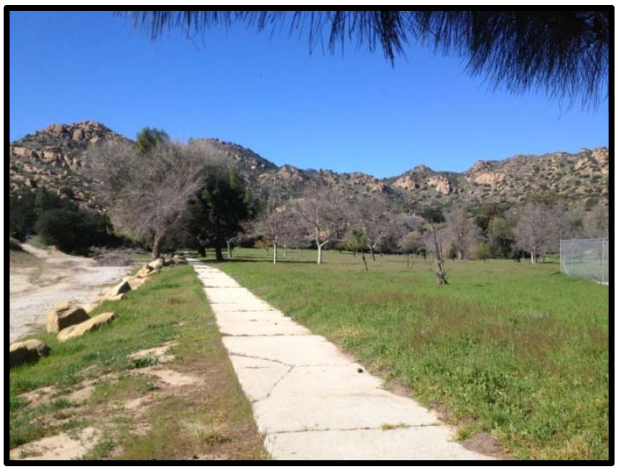

**Figure 8**
View of Remains of the Shooting Range Firing Line Facing North
Source: URS Corporation, 2013.

## Archaeological Assessment

On February 14, 2013, URS investigators completed an archaeological survey of the Project site. In addition to the two architectural history properties within the Project site (The Old Powder House and Shooting Range Firing Line), one previously unrecorded historic archaeological site was also identified. The unrecorded historic archaeological site consists of fragments of clay pigeons and lead shot visible in soil disturbed by animal burrows throughout the Project site (**Figures 9** and **10**). The clay pigeon fragments and lead shot are from as early as 1952. The unrecorded historic archaeological site has been significantly disturbed by rodent burrows and from grading and development during the construction of Chatsworth Park South during the 1970s. Therefore, the unrecorded historic archaeological site spans nearly the entire boundaries of the former shooting range and target locations, and much of the fragments are located immediately below the ground surface, but are heavily disturbed. The materials found at the unrecorded historic archaeological site are typical remains from a recreational shooting range, and do not reflect any unique or important trends or themes. The artifacts identified during the field survey were found to have no ties to any event or person of historic significance. The materials found at the unrecorded historic archaeological site are typical remains from a recreational shooting range, and do not reflect any unique or important trends or themes. They will not facilitate the testing of a hypothesis or corroborate and amplify currently available information regarding skeet shooting.

**Figure 9**
View of Remains of Lead Shots at the Project Site
Source: URS Corporation, 2013.

**Figure 10**
View of Clay Pigeon Fragments at the Project Site
Source: URS Corporation, 2013.

# IMPACT ASSESSMENT

In conclusion, the historic-period Old Powder House and Shooting Range Firing Lane, in their current appearance and form, will not be significantly impacted by the proposed Project, due to existing alterations and changes to those properties, and that the proposed Project would install the cap around these structures. The Old Powder House has experienced physical alterations to major elements, along the façade and roof, and major changes to the surrounding environment from the formation of Chatsworth Park South and its related landscaping and other improvements. Further, the Shooting Range Firing Lane's original and historic integrity, character defining features, and overall setting and visual narrative is no longer extant. As a result, improvements within the Project site from surface capping, including the grubbing and removing of trees, grading, fencing, would not cause a substantial adverse change to these properties and a significant impact to architectural history properties in the Project site.

The archaeological assessment identified one previously unrecorded resource in the Project site. The previously unrecorded resource includes fragments of clay pigeons and lead shot visible in soil disturbed primarily by animal burrows. The site has no physical or historic integrity and does not have significant or unique data potential, as the materials are typical of mid-twentieth century recreational shooting, and do not have any subsurface value for research purposes. Further, the previously unrecorded resource site has been graded and impacted from development of Chatsworth Park South. The proposed Project would have minimal ground disturbance, primarily to support the removal of a tree, and is expected to use several bull-dozers and rollers to complete the work; which, based on current conditions of the Project site, would not cause a new significant impact or a substantial adverse change to the archaeological resource. However, ground-disturbing activities, such as grading or excavation, could potentially disturb previously unidentified subsurface resources, and mitigation measures have been provided to lessen potential significant impacts to a level of less than significant with mitigation incorporation. Therefore, with the implementation of the mitigation measures **MM-CR-01**, the proposed Project would have a less than significant impact, per CEQA Section 15064.5:

**MM-CR-01** In the event that archaeological resources are unearthed during Project subsurface activities, all earth-disturbing work within a 10-meter radius shall be temporarily suspended or redirected until a qualified archaeologist has been provided the opportunity to assess the significance of the find and implement appropriate measures to protect or properly remove the find per federal and state regulations. Construction personnel must be informed that unauthorized collection of cultural resources is prohibited.

If the resource is determined to be significant, the archaeologist, as appropriate, shall prepare a program for recovery of the resources in consultation with the State Office of Historic Preservation that satisfied the requirements of CEQA Section 21083.2. The archaeologist shall complete a report of excavations and findings, and shall submit the report for peer review by three County-certified archaeologists or paleontologists, as appropriate. Upon approval of the report, the County shall submit the report to the South Central Coastal Information Center. The South Central Coastal Information Center shall maintain the report on file. After the find has been appropriately mitigated, as prescribed in this measure, work in the area may resume.

# REFERENCES

California State Parks. 2010. Santa Susana State Historic Park. State of California.

California Department of Parks and Recreation. 2007. Santa Susana Pass State Historic Park, Preliminary General Plan/Draft EIR. http://www.parks.ca.gov/pages/21299/files/chapter%201%20introduction(1).pdf. Accessed February 2013.

Foundation for the Preservation of the Santa Susana Mountains. N.d. "History." Santa Susana Pass State Historic Park. http://www.fpssm.org/history.php. Accessed February2013.

King, Chester, and Thomas C. Blackburn. 1978. "Tataviam." In: *Handbook of North American Indians*. W.C. Sturtevant (general editor). Vol. 8. *California*. R.F. Heizer (editor). pp. 535-537. Smithsonian Institution, Washington, D.C.

Love, Marianne. 2011a. "Chatsworth Park South Completely Contaminated, Neighborhood Council Told." Dec. 8. *Northridge-Chatsworth Patch*. http://northridge.patch.com/articles/chatsworth-park-south-is-completely-contaminated-neighborhood-council-told. Accessed February 2013.

Love, Marianne. 2011b. "No Reopening Date Yet for Chatsworth Park South." *Northridge-Chatsworth Patch*. Oct. 20. http://northridge.patch.com/articles/there-s-no-date-to-reopen-chatsworth-park-south. Accessed February 2013.

NETR Online. 1952, 1959, 1969, 1977, 1980, 2003, and 2005 Aerials. Historicaerials.com. Accessed Feb. 13, 2013.

Norris, Robert M. and Webb, Robert W., 1990. Geology of California. Second Edition. New York: Wiley.

Schrader, Tina. 2010. "Park Tainted by Lead from Roy Rogers' Days May Reopen." *Northridge-Chatsworth Patch*. Sep. 28, 2010. http://northridge.patch.com/articles/how-roy-rogers-poisoned-a-park. Accessed February 2013.

Sutton, Mark Q. 1989. "Late Prehistoric Interaction Spheres in the Mojave Desert, California." *North American Archaeologist* 10(2):95–121.

Sutton, Mark Q. 1996. "The Current Status of Archaeological Research in the Mojave Desert." *Journal of California and Great Basin Anthropology* 18(2): pp. 221.

Sutton, Mark Q., et al. 2007. "Advances in Understanding the Mojave Desert Prehistory." In: *California Prehistory Colonization, Culture and Complexity*, edited by T.L. Jones and K.A. Klar, pp. 229–245. Lanham, MD: Altamira Press.

USDA Web Soil Survey. 2012. Area of Interest; San Fernando Valley. http://websoilsurvey.nrcs.usda.gov/app/. Accessed February 2013.

URS Corporation. 2013. Remedial Action Plan Chatsworth Park South 22360 West Devonshire Street Chatsworth, California.

Warren, Claude N., 1984. "The Desert Region." In: *California Archaeology*, by Michael J. Moratto, pp. 339–430. Orlando, FL: Academic Press.

Warren, Claude and Robert H. Crabtree. 1972. "The Prehistory of the Southwestern Great Basin." In: *Handbook of the North American Indians* Vol. 11: Great Basin. Washington D.C.: Smithsonian Institution.

Watson, Virgina. 2010. "Chatworth's Homestead Acre is an L.A. Cultural Monument." *Northridge-Chatsworth Patch*. Nov. 9. http://northridge.patch.com/articles/chatsworths-homestead-acre-is-an-la-cultural-monument. Accessed February 2013.

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# CONFIDENTIAL
# APPENDIX

## CHRIS SEARCH AND NATIVE AMERICAN CONTACT

The content of the **Confidential** Appendix contains confidential cultural resources location information and has been supplied to the City of Los Angeles under separate and confidential cover. The distribution of this material should be restricted to those with a need to know. Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources should be kept confidential. The legal authority to restrict cultural resource information is in California Government Code 6254.1.

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# APPENDIX D
## BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

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URS

# Technical Memorandum

Date: March 2013

To: Mr. Paul Davis
Environmental Specialist
City of Los Angeles Department of Recreation and Parks

From: Kavita Mehta, Jaime Guzmán, and Jeff Crain
URS Corporation

Subject: **Chatsworth Park South Remedial Action Plan Project**
**Biological Resources Technical Memorandum**

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## INTRODUCTION

The following Biological Resources Technical Memorandum summarizes the biological resources investigations completed in support of the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Chatsworth Park South Remedial Action Plan Project (proposed Project) located at 22360 West Devonshire Street in the community of Chatsworth in the City of Los Angeles, County of Los Angeles, CA.

## PROPOSED PROJECT

The Chatsworth Park South Remedial Action Plan Project (proposed Project) is the implementation of a Remedial Action Plan (RAP) to address contaminated soil at Chatsworth Park South (Project site), which is a City of Los Angeles Department of Recreation and Parks (LADRAP or City of Los Angeles) facility encompassing approximately 72 acres in the northwestern portion of the San Fernando Valley. The proposed Project involves containment of contaminated soils through capping of the contaminated soil surface. The RAP was prepared pursuant to the terms of a Voluntary Cleanup Agreement (VCA) between the City of Los Angeles Department of Recreation and Parks (City of LA) and the State of California Department of Toxic Substances Control (DTSC). The proposed Project includes activities associated with removal of approximately 12,900 cubic yards (cu. yd.) of contaminated soils and their disposal in appropriate landfills, import of approximately 27,800 cu. yd. of clean soil and approximately 16,750 cu. yd. of aggregate to be used for the capping process, installation of a drainage system, removal of approximately 100 non-heritage, non-protected trees, replacement of these trees with at least an equal number of native trees, installation of an irrigation system for the new planting, and installation of fencing around trees and areas where capping will not be implemented. The proposed Project also includes rough grading the top 18 inches of soil to destroy the existing burrowing animal network and to prevent future settlement by installing a layer of steel hardware cloth beneath the capping base. Portions of the Project site with steep terrain will not be remediated and will be fenced off to restrict public access. The proposed Project does not include demolition of existing Project site structures or construction of new facilities at the Project site. Refer to the IS/MND for a more detailed discussion of the proposed Project.

## REGULATORY SETTING

Table 1 provides a summary of the natural resource laws, policies, and regulations that are applicable to the proposed Project.

**Table 1**
Applicable Regulations

| **Federal** | |
|---|---|
| Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1543) | The Endangered Species Act of 1973 (ESA) and subsequent amendments provide guidance for the conservation of federally-listed species and the habitats upon which they depend. |
| Interagency Consultation and Biological Assessments (ESA Section 7) | ESA Section 7 provides a means for authorizing take of threatened or endangered species by federal agencies and applies to actions that are conducted, permitted, or funded by a federal agency. ESA Section 7 requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. If a proposed project "may affect" a listed species or destroy or modify critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the potential effect. |
| Prohibited Acts (ESA Section 9) | ESA Section 9 prohibits the "take" of any fish or wildlife species listed under ESA as threatened or endangered, unless otherwise authorized by federal regulations. "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. There are two processes, ESA Section 7 and ESA Section 10, whereby take can be allowed for activities when they are incidental to an otherwise legal activity. |
| Habitat Conservation Plans (ESA Section 10) | ESA Section 10 requires obtaining an Incidental Take Permit from the USFWS, for non-federal activities that might incidentally harm (or "take") endangered or threatened wildlife. In order to obtain a permit, a Habitat Conservation Plan must be developed to offset any harmful effects the proposed activity might have on the species. |
| Section 404 of the Clean Water Act of 1977 (33 U.S.C. §§1251-1376) | The Clean Water Act of 1977 (CWA) serves as the primary federal law protecting the quality of the nation's surface waters, including wetlands. Under Section 404, the United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (USEPA) regulate the discharge of dredged and fill materials into the waters of the United States. These waters are primarily defined as navigable waterways or water features (including wetlands) that have a significant nexus to navigable waters. Project sponsors must obtain authorization from USACE for all discharges of dredged or fill materials into waters of the United States before proceeding with a proposed activity. Individual Section 404 permits may only be issued for a least environmentally damaging practicable alternative. Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The USACE cannot issue an individual permit or verify the use of a general permit until the requirements of the National Environmental Policy Act (NEPA), ESA, the Coastal Zone Management Act (CZMA) and the National Historic Preservation Act (NHPA) have been met. Additionally, no permit can be issued or verified until a water quality certification, or waiver of certification, has been issued pursuant to CWA Section 401. |
| Fish &Wildlife Coordination Act (16 U.S.C. §§661- 667e et seq.) | The Fish and Wildlife Coordination Act applies to any federal project where any body of water is impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with USFWS and the appropriate state wildlife agency. |
| Migratory Bird Treaty Act (16 U.S.C. §§703-712) | The Migratory Bird Treaty Act (MBTA) protects migratory birds and their parts (including eggs, nests, and feathers). The MBTA prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. Projects that are likely to result in the taking of birds protected under the MBTA will require the issuance of take permits from the USFWS. Activities that would require such a permit would include, but not be limited to, removal of nests, eggs, and feathers. |
| Protection of Migratory Bird Populations (Executive Order 13186) | Executive Order 13186 (Federal Register, Volume 66, Number 11 [January 17, 2001], p. 4) directs each federal agency taking actions that have or may have adverse impact on migratory bird populations to work with USFWS to develop a memorandum of understanding that will promote the conservation of migratory bird populations. This includes avoiding and minimizing adverse impacts on migratory bird resources when conducting agency actions, restoring and enhancing migratory bird habitats, and preventing or abating the pollution or detrimental alteration of the environment for the benefit of migratory birds. |
| Bald and Golden Eagle Protection Act (16 U.S.C. §§668-668d, 54 Statute 250) | The Bald and Golden Eagle Protection Act prohibits the destruction of bald and golden eagles and their occupied and unoccupied nests. |

**Table 1**
Applicable Regulations

| | |
|---|---|
| **State** | |
| Porter-Cologne Water Quality Control Act (CA Water Code Division 7) | The Porter-Cologne Water Quality Control Act (Porter-Cologne) established nine Regional Water Quality Control Boards (RWQCBs). These boards oversee water quality on a day-to-day basis at the local and/or regional level, and prepare and update water quality control plans. The RWQCBs also issue Section 401 water quality certifications. Porter-Cologne also grants ultimate authority to the State Water Resources Control Board (SWRCB) over State water rights and water quality policy. |
| ***California Fish and Wildlife Code*** | |
| California Endangered Species Act (Sections 2050 -2085) | The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats, by protecting "…all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation." It mandates that state agencies do not approve a project that would jeopardize the continued existence of these species if reasonable and prudent alternatives are available that would avoid a jeopardy finding. There are no state agency consultation procedures under CESA. For projects that would affect species that are federally and state-listed, compliance with the federal ESA satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under Section 2080.1. For projects that would result in take of a species that is state-listed only, the project sponsor must apply for a take permit in accordance with Section 2081(b). |
| California Native Plant Protection Act (Sections 1900-1913) | The California Native Plant Protection Act requires all state agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. It prohibits importation, take, and sale of such plants. The CESA defers to the California Native Plant Protection Act of 1977 (California Fish and Wildlife Code Sections 1900–1913), which ensures that state-listed plant species are protected. |
| Lake and Streambed Alteration Program (Section 1600 et seq.) | The Lake and Streambed Alteration Program requires notifying the CDFW prior to any project activity that would substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to projects which occur within the floodplain of a body of water. |
| Natural Communities Conservation Planning Act (Sections 2800-2835) | The Natural Communities Conservation Planning Act was enacted to encourage broad-based planning to provide for effective protection and conservation of the state's wildlife resources while continuing to allow appropriate development and growth. Natural Community Conservation Plans may be implemented that identify measures necessary to conserve and manage natural biological diversity within the planning area while allowing compatible and appropriate economic development, growth, and other human uses. |
| Bird Nesting Protections (Sections 3503 &3503.5) | Bird Nesting Protections state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. To avoid violation of the take provisions, it is generally required that project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle. |
| Fully Protected Species (Sections 3511, 4700, 5050, 5515) | Four sections of the California Fish and Wildlife Code list 37 fully-protected species (California Fish and Wildlife Code Sections 3511, 4700, 5050, and 5515) and prohibit take or possession "at any time" of the species listed, with few exceptions, and state that "…no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to 'take' the species," …and that no previously issued permits or licenses for take of the species shall have any force or effect…" for authorizing take or possession. |

**Table 1**
Applicable Regulations

| **Local** | |
|---|---|
| County of Los Angeles General Plan | The County of Los Angeles General Plan (County of Los Angeles 1980) is the guide for growth and development in the unincorporated areas of the County of Los Angeles. The County of Los Angeles General Plan is designed to guide the long-term physical development and conservation of the County's land and environment through a framework of goals, policies, and implementation programs. The County of Los Angeles General Plan also provides a foundation for more detailed plans and implementation programs to be conducted, such as area or community plans, zoning ordinances, and specific plans. The County of Los Angeles General Plan Conservation and Open Space Element (County of Los Angeles 1980) sets forth the following goals and policies, related to biological resources:<br>**Goal C/OS-5**: Preserve in perpetuity Significant Ecological Areas (SEAs), biotic communities, and imperiled species.<br>**Policy C/OS 5.1**: Require applicants to consult with County staff early in the development process for assistance in project designs that maximize natural features and preserve biological resources.<br>**Policy C/OS 5.2**: Participate in inter-jurisdictional collaborative strategies that protect biological resources.<br>**Policy C/OS 5.3**: Maximize the ecological function of the County's diverse natural habitats, such as coastal sage scrub, valley needlegrass and other perennial grasslands;and of Joshua trees, Southern California black walnut (*Juglans californica*), western (California) sycamore (*Plantanus racemosa*), and native oak woodlands.<br>**Policy C/OS 5.4**: Support the restoration and preservation of degraded streams, rivers, wetlands, and other areas with significant biological resources.<br>**Policy C/OS 5.5**: Maintain and monitor SEAs and other programs to conserve special-status species, their associated habitat, and wildlife movement corridors.<br>**Policy C/OS 5.6**: Require that development within an SEA be designed to meet the Significant Ecological Area Technical Advisory Committee recommendations, to the greatest extent possible, and to:<br>o Preserve sensitive ecological resources;<br>o Maintain sufficient natural vegetative cover and open spaces to buffer sensitive resource areas;<br>o Maintain water bodies and watercourses in a natural state;<br>o Preserve wildlife movement corridors;<br>o Site roads and utilities so as to avoid sensitive habitat areas or migratory paths;<br>o Control light pollution;<br>o Reduce erosion;<br>o Limit noise producing uses; and,<br>o Provide open or permeable fencing.<br>**Policy C/OS 5.7**: Require that development mitigate "in-kind" for unavoidable impacts on biologically sensitive areas and permanently preserve mitigation sites.<br>**Policy C/OS 5.8**: Maintain watercourses and wetlands in a natural state, unaltered by grading, fill, or diversion activities. |
| County of Los Angeles Oak Tree Ordinance | The County of Los Angeles Oak Tree Ordinance (Part 16, Chapter 22.56, of the County of Los Angeles General Plan, 1980) is intended to preserve and maintain healthy oak trees in the County during and throughout the development process. Oak trees provide shade, enhance an area's aesthetic character, reduce air pollution, prevent soil erosion, and hold an intrinsic value for residents of Southern California. The ordinance not only recognizes oak trees as significant historical, aesthetic, and ecological resources, but places restrictions on development for their preservation. All oak trees whose trunks measure 25 inches (64 centimeters) or more in circumference (8 inches [20 centimeters] in diameter) are legally protected from being damaged or removed during the course of a development project. This ordinance applies to all trees of the oak genus, including the valley oak (*Quercus lobata*) and coast live oak (*Quercus agrifolia*). |

**Table 1**
Applicable Regulations

| | |
|---|---|
| City of Los Angeles<br>General Plan (2001) | The General Plan Framework Element for the City of Los Angeles is a strategy for long-term growth, which sets a Citywide context to guide the update of the community plan and Citywide elements. The General Plan Framework Element responds to state and federal mandates to plan for the future The City of Los Angeles General Plan Conservation Element (City of Los Angeles 2001) sets forth the following objectives, policies, and programs related to biological resources:<br>***Endangered Species***<br>**Objective**: protect and promote the restoration, to the greatest extent practical, of sensitive plant and animal species and their habitats.<br>**Policy 1**: continue to require evaluation, avoidance, and minimization of potential significant impacts, as well as mitigation of unavoidable significant impacts on sensitive animal and plant species and their habitats and habitat corridors relative to land development activities.<br>**Policy 2**: continue to administer city-owned and managed properties so as to protect and/or enhance the survival of sensitive plant and animal species to the greatest practical extent.<br>**Policy 3**: continue to support legislation that encourages and facilitates protection of endangered, threatened, sensitive, and rare species and their habitats and habitat corridors.<br>***Fisheries***<br>**Objective 1**: protect and restore ocean fisheries (habitats).<br>***Habitat***<br>**Objective**: preserve, protect, restore and enhance natural plant and wildlife diversity, habitats, corridors and linkages so as to enable the healthy propagation and survival of native species, especially those species that are endangered, sensitive, threatened, or species of special concern.<br>**Policy 1**: continue to identify significant habitat areas, corridors, and buffers and to take measures to protect, enhance, and/or restore them.<br>**Policy 2**: continue to protect, restore, and/or enhance habitat areas, linkages, and corridor segments, to the greatest extent practical, within city-owned or managed sites.<br>**Policy 3**: continue to work cooperatively with other agencies and entities in protecting local habitats and endangered, threatened, sensitive, and rare species.<br>**Policy 4**: continue to support legislation that encourages and facilitates protection of local native plant and animal habitats. |
| City of Los Angeles, Department of Recreation and Parks<br>Tree Preservation Policy (2004) | The City of Los Angeles, Department of Recreation and Parks (LADRAP) Tree Preservation Policy is intended to establish a regulatory tool to protect the value of specified trees within the City of Los Angeles and avoid significant negative impacts to the ecosystem. Protection is given to:<br>• Trees Protect by LA City Ordinances<br>• Heritage Trees<br>• Special Habitat Value Trees; and<br>• All other Common Park Trees.<br>Removal of these trees requires consultation with the Forestry Division of the LADRAP. |

# METHODOLOGY

## Study Methods

This section describes the literature reviews, field surveys, required studies, survey personnel, and the dates the tasks were conducted within the Biological Survey Area (BSA). The BSA was defined as the Project limits plus a 100 foot buffer to account for any potential indirect impacts due to activities associated with the proposed Project (**Figure 1**).

### *Literature Review*

Before conducting field surveys, available information from resource management plans and other relevant documents was reviewed to determine the locations and types of biological resources that have the potential to occur within and adjacent to the BSA. The materials reviewed included, but were not limited to:

- Aerial photographs (Digital Globe 2009);
- USFWS Critical Habitat Portal (USFWS 2013);
- The National Wetland Inventory (NWI 2007).

The California Natural Diversity Database (CNDDB 2013) and the Electronic Inventory of Rare and Endangered Plants of California (CNPS 2013) were also queried for records of occurrence of special-status species and their habitats within the following United States Geological Survey (USGS) 7.5-minute quadrangle maps: Oat Mountain, Calabasas, and Canoga Park (USGS 2013).

### *Field Surveys*

A reconnaissance field survey of the BSA was completed on February 14, 2013 to assess general and dominant vegetation types, plant community sizes, habitat types, and species present within communities. Vegetation classifications of plant communities were derived from the criteria and definitions of Holland (1986), Sawyer and Keeler-Wolf (1995), and Sawyer, Keeler-Wolf and Evans (2009). Plants were identified to the lowest taxonomic level sufficient to determine whether the plant species observed was non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin 2012). Scientific and common species names were recorded according to Baldwin (2012).

During field surveys of the BSA, vegetation communities were delineated on aerial photographs at a scale of 1 inch (2.5 centimeters) = 400 feet (122 meters), in accordance with the following criteria:

- The minimum mapping unit for vegetation communities was 0.1 acre (0.04 hectares).
- A vegetation community was estimated as a square of roughly 66 feet (20 meters) on each side. When linear vegetation communities were encountered, the minimum unit of mapped vegetation was approximately 20 feet (6 meters) wide by 200 feet (61 meters) long.

Vegetation communities were identified according to their percent cover of dominant plant species observed. The classification of a vegetation community was based on a visual estimation of the dominant species (constituting approximately 50 percent or more of the total cover within any mapped vegetation community) relative to the list of dominant species for a given Holland/Sawyer, Keeler-Wolf, Evans classification. For example, a grassland required roughly 50 percent cover of dominant grass species to be mapped as such. Mixed communities were identified where species composing a second vegetation community were present at approximately 35 percent or higher cover, and intermixed with the dominant vegetation community.


**Figure 1**
Biological Survey Area

Wildlife observations were documented and recorded within the BSA. The presence of a wildlife species was determined through direct observation or wildlife signs (e.g., tracks, burrows, nests, scat, or vocalization). The field data compiled for observed wildlife included common names, scientific names, habitat, and evidence of species sign when no direct observations were made.

The BSA was assessed for its potential to support special-status species based on reported habitat preferences, and past occurrences of species within the region (CNDDB 2013; CNPS 2013; Baldwin 2012; Holland 1986; Sawyer and Keeler-Wolf 1995; Sawyer, Keeler-Wolf ,and Evans 2009; USFWS 2012). The following definitions for the potential for occurrence were derived from the California Department of Transportation's *Standard Environmental Reference* (Caltrans 2009):

- **Absent (A)**: No habitat occurs within the survey area and no further surveys are necessary.
- **Habitat Present (HP)**: Habitat is present within the survey area.
- **Present (P)**: Species or species sign was observed within the BSA.
- **Critical Habitat (CH)**: The BSA is within a designated critical habitat unit.

USGS 7.5-minute topographic quadrangle maps and aerial photography (Digital Globe 2009) were examined to initially determine the locations of potential aquatic resource areas within the BSA. Those portions of the BSA that were suspected of containing aquatic resources (e.g., waters of the United States, wetlands, waters of the State, and sensitive riparian areas) were qualitatively assessed in the field.

# EXISTING CONDITIONS

## Vegetation Communities

Vegetation communities observed within the BSA are described below shown in **Figure 2**. A detailed list of the plant species observed within the BSA is included in Attachment A.

### *Black Willow Thickets*

Black willow thickets are a riparian community dominated by large stands of Goodding's black willow (*Salix gooddingii*). Other willow species may be a component of the canopy, as well as western sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*). The canopy layer can be continuous to open. Shrub layers tend to be dominated by mulefat (*Baccharis salicifolia*) and can also be continuous to open. Herb layers tend to be highly variable. Within the BSA, this community consisted of a fairly continuous canopy dominated by Goodding's black willow, arroyo willow (*Salix lasiolepis*) and western sycamore. Black willow thickets occur in two locations within the BSA, both on the northwest portion of the within Remediation Plan Areas B and D (**Figure 2**).

### *Coast Live Oak Woodland*

Coast live oak woodland is an open to continuous woodland dominated by coast live oak (*Quercus agrifolia*). The shrub layer is commonly sparse and variable and the herb layer is open or grassy. Within the BSA, this community consisted of open to nearly continuous stands of coast live oak with laurel sumac (*Malosma laurina*) as the dominant component of the shrub layer, along with California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). This community type was found thoughout the 100-foot buffer area of the BSA and is a large component of Remediation Plan Area A (**Figure 2**).

### *Laurel Sumac Scrub*

Laurel sumac scrub is a shrub community with open to continuous cover of large shrubs dominated by laurel sumac. The herbaceous layer is often open to grassy. Within the BSA, this community is dominated by laurel sumac, California sagebrush and California buckwheat. It occurs throughout the northern portion of the 100-foot buffer area and in Remediation Plan Area E (**Figure 2**).

### *Developed*

The majority of the BSA is developed as part of an existing park. The developed areas are dominated by turf grass and ornamental trees including gum trees (*Eucalyptus* sp.) and pines (*Pinus* sp.). A portion of the 100-foot buffer area to the east is developed as homes with associated ornamental landscaping (**Figure 2**).

## Special Status Plant Species

The literature review analysis determined that 14 special-status plant species may potentially occur within the USGS quadrangles that contain the BSA. A complete list of the 14 special-status plant species, including state and federal status, habitat description, and potential to occur within the BSA, are provided in **Table 2**.

Of these fourteen special-status plant species, suitable habitat for five was present within the BSA including suitable habitat for the slender mariposa lily (*Calochortus clavatus* var. *gracilis*), Santa Susana tarplant (*Deinandra minthornii*), Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*), white-veined monardella (*Monardella hypoleuca* ssp. *hypoleuca*), and chaparral nolina (*Nolina cismontana*). As indicated in **Table 1**, the entire suitable habitat for these special-status plant species occurs within Remedial Plan Areas A and E and the surrounding 100-foot buffer area of the BSA.

## Special-Status Wildlife Species

The literature review analysis determined that 17 special-status wildlife species may occur within the USGS quadrangles that contain the BSA. A complete list of the 17 special-status wildlife species, including state and federal status, habitat description, and potential to occur within the BSA, is provided in **Table 3**.

Of the 17 special-status species, suitable habitat for ten of these species was present within the BSA, including suitable habitat for the arroyo toad (*Anaxyrus californicus*), silvery legless lizard (*Anniella pulchra pulchra*), pallid bat (*Antrozous pallidus*), golden eagle (*Aquila chrysaetos*), western mastiff bat (*Eumops perotis californicus*), San Diego desert woodrat (*Neotoma lepida intermedia*), coast horned lizard (*Phrynosoma blainvillii*), coastal California gnatchatcher (*Polioptila californica californica*), Gertsch's socalchemmis spider (*Socalchemmis gertschi*), and two-striped garter snake (*Thamnophis hammondii*). As with the special-status plant species, all of the potential habitat for special-status wildlife species occurs within Remediation Plan Areas A and E, as well as within the 100-foot buffer area of the BSA.

## Aquatic Resources

There is an unnamed blue-line drainage that flows roughly west to east across the Project site, passing through Remediation Plan Areas E, D, G, J, and K and exiting the Project site to the east into the Homestead Property (**Figure 3**). This drainage appears to receive flow from the surrounding hills and supports the riparian black willow thicket vegetation community located within the northwest portion of the BSA. The jurisdictional status of this feature is unknown and will have to be delineated prior to construction activities to determine potential permitting requirements.

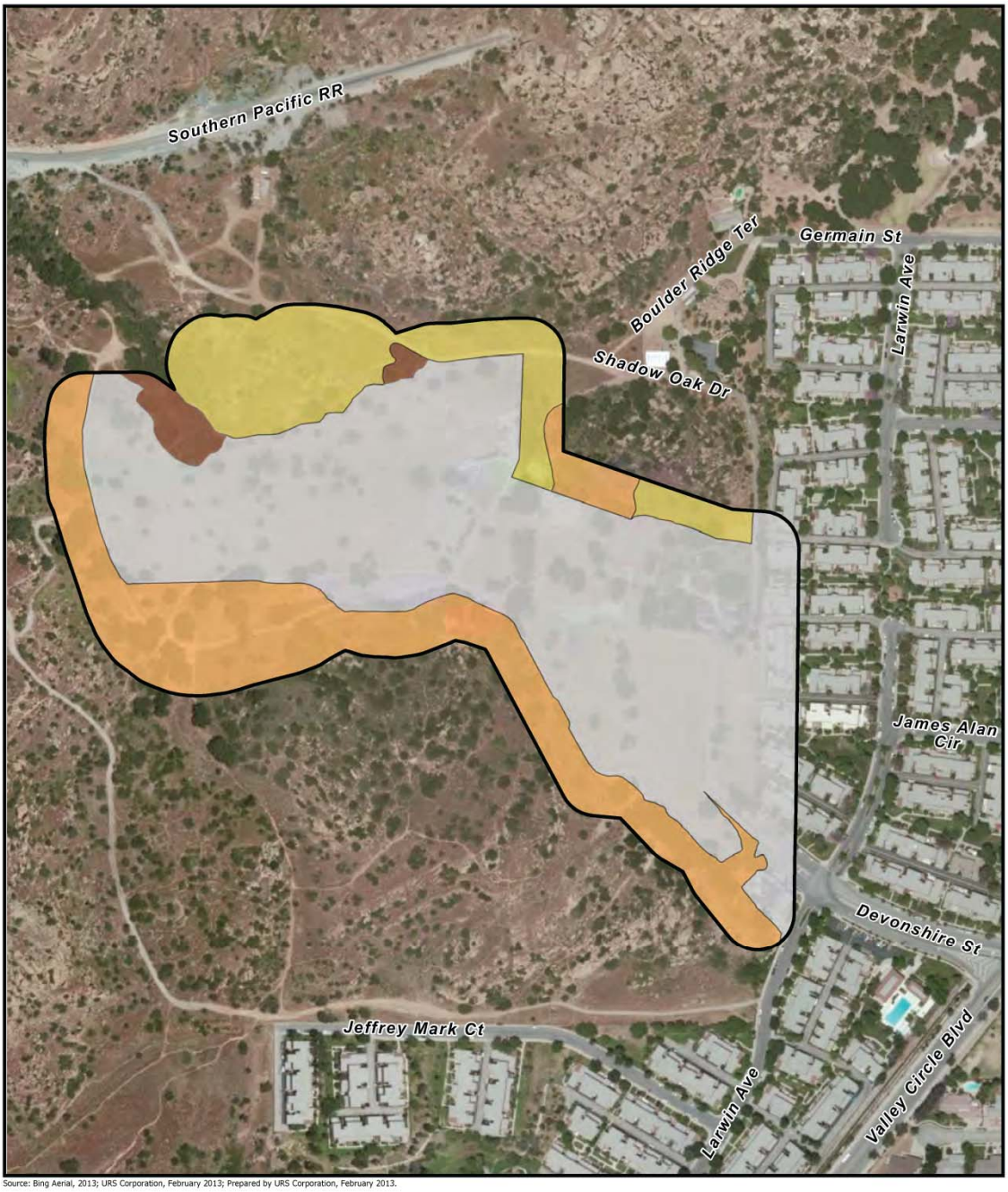



**Figure 2**
Vegetation Communities

**Table 2**
Special-Status Plant Species and their Potential to Occur within the BSA

| Common Name | Scientific Name | Status[a] | General Habitat Description | Potential to Occur |
|---|---|---|---|---|
| Braunton's Milk-Vetch | *Astragalus brauntonii* | FE<br>CRPR 1B.1 | Perennial herb. Occurs in chaparral, coastal sage scrub, closed-pine coniferous forest, and valley and foothill grassland, usually on granite, limestone, or gravelly clay soils in recently burned or disturbed areas in south coast and peninsular ranges. Elevation range 3 - 2,100 ft (1 - 640 m). | **ABSENT**<br>No habitat present based on soil types |
| Round-Leaved Filaree | *California macrophylla* | CRPR 1B.1 | Annual herb. Occurs in cismontane woodland and valley and foothill grassland associated with clay soils. Elevation range 49 - 3,937 ft (15 - 1,200 m). | **ABSENT**<br>No habitat present based on soil types |
| Slender Mariposa Lily | *Calochortus clavatus* var. *gracilis* | CRPR 1B.2 | Perennial bulbiferous herb. Occurs in chaparral and coastal scrub, often in shaded foothill canyons and on grassy slopes within other habitat. Elevation range 1,050 - 3,280 ft (320 - 1,000 m). | **HABITAT PRESENT**<br>Habitat present in Area A and Area E |
| Plummer's Mariposa Lily | *Calochortus plummerae* | CRPR 1B.2 | Perennial bulbiferous herb. Occurs in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitats on granitic, rocky substrates. Elevation range 328 - 5,577 ft (100 - 1,700 m). | **ABSENT**<br>No habitat present based on soil types |
| San Fernando Valley Spineflower | *Chorizanthe parryi* var. *fernandina* | SE<br>CRPR 1B.1 | Annual herb. Occurs in coastal scrub and valley and foothill grassland in sandy soils. Elevation range 492 - 4,003 ft (150 - 1,220 m). | **ABSENT**<br>No habitat present based on soil types |
| Santa Susana Tarplant | *Deinandra minthornii* | CRPR 1B.2 | Deciduous shrub. Occurs in chaparral and coastal scrub in rocky soils and sandstone outcrops and crevices. Known only from Los Angeles and Ventura counties. Elevation range 920 - 2,493 ft (280 - 760 m). | **HABITAT PRESENT**<br>Habitat present in rock outcroppings in Area E |
| Slender-Horned Spineflower | *Dodecahema leptoceras* | FE<br>SE<br>CNPS 1B.1 | Annual herb. Occurs in coastal scrub in alluvial fans, chaparral, and cismontane woodlands along flood-deposited terraces and washes; associated with *Encelia*, *Dalea*, and *Lepidospartum* in sandy soils. Elevation range 656 - 2,493 ft (200 - 760 m). | **ABSENT**<br>No habitat present |
| Blochman's Dudleya | *Dudleya blochmaniae* ssp. *blochmaniae* | CRPR 1B.1 | Perrenial herb. Occurs in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grasslands in rocky, clay soils or serpentine. Elevation range 15 – 1,500 ft (5 – 450 m). | **HABITAT PRESENT**<br>Habitat present in rock outcroppings in Area E |
| Many-Stemmed Dudleya | *Dudleya multicaulis* | CRPR 1B.2 | Perennial herb. Occurs in chaparral, coastal scrub, and valley and foothill grassland in heavy, often clayey, soils or grassy slopes. Elevation range 49 - 2,592 ft (15 - 790 m). | **ABSENT**<br>No habitat present based on soil types |
| Palmer's Grapplinghook | *Harpagonella palmeri* | CRPR 4.2 | Annual herb. Occurs in chaparral, coastal scrub, and valley and foothill grassland in clay soils. Elevation range 66 - 3,133 ft (20 - 955 m). | **ABSENT**<br>No habitat present based on soil types |
| Coulter's Goldfields | *Lasthenia glabrata* ssp. *coulteri* | CRPR 1B.1 | Annual herb. Occurs in marshes, swamps, playas, and vernal pools. Elevation range 3 – 4000 ft (1 – 1220 meters). | **ABSENT**<br>No vernal pool habitat present within the BSA |
| White-Veined Monardella | *Monardella hypoleuca* ssp. *hypoleuca* | CRPR 1B.3 | Herb. Occurs in chaparral and cismontane woodland. Elevation range 165 – 5000 ft (50 – 1525 m). | **HABITAT PRESENT**<br>Marginal habitat present in Area A and Area E |

**Table 2**
Special-Status Plant Species and their Potential to Occur within the BSA

| Common Name | Scientific Name | Status[a] | General Habitat Description | Potential to Occur |
|---|---|---|---|---|
| Chaparral Nolina | *Nolina cismontana* | CRPR 1B.2 | Perennial evergreen shrub. Occurs in chaparral and coastal scrub in sandstone or gabbro soils. Elevation range 450 – 4,200 ft (140 – 1275 m). | **HABITAT PRESENT** Marginal habitat present in Area A and Area E |
| California Orcutt Grass | *Orcuttia californica* | FE<br>SE<br>CRPR 1B.1 | Annual herb. Occurs in vernal pools. Elevation range 49 - 2,165 ft (15 - 660 m). | **ABSENT** No vernal pool habitat present within the BSA |

Notes:
[a] Status Codes:

**Federal**
***Federal Endangered Species Act***
CH Critical habitat
FE Federal endangered
FT Federal threatened
**State**
***California Endangered Species Act***
SE State endangered
ST State threatened

***California Rare Plant Rank (CRPR) classifications***
1A Plants presumed extinct in California
1B Plants rare, threatened, or endangered in California and elsewhere
2 Plants rare, threatened, or endangered in California, but more common elsewhere
3 Plants about which we need more information: A review list
4 Plants of limited distribution: A watch list

***CRPR threat codes***
0.1 Seriously threatened in California (high degree/immediacy of threat)
0.2 Fairly threatened in California (moderate degree/immediacy of threat)
0.3 Not threatened in California (low degree/immediacy of threats or no current threats known)

Source: URS Corporation, 2013; CNDDB, 2013; CNPS 2013

**Table 3**
Special-Status Wildlife Species and their Potential to Occur within the BSA

| Common Name | Scientific Name | Status[a] | General Habitat Description | Potential to Occur |
|---|---|---|---|---|
| Tricolored Blackbird | *Agelaius tricolor* | SSC | Found in herbaceous wetland, cropland/hedgerow, and grassland habitats. Breeds in freshwater marshes with tall emergent vegetation, thickets of blackberry (*Rubus* spp.), and silage fields. Roosts in marshes and forages in agricultural areas, especially where livestock are present and grass is short. | **ABSENT** No suitable habitat present |
| Arroyo Toad | *Anaxyrus californicus* | FE<br>SSC | Found in freshwater washes, streams, arroyos, and adjacent uplands in riparian woodlands with shallow gravelly pools with sandy terraces. | **HABITAT PRESENT** Marginal habitat present in Area A and Area E |
| Silvery Legless Lizard | *Anniella pulchra pulchra* | SSC | Occurs in riparian, sand/dune, shrubland/chaparral, hardwood-woodland, and mixed-woodland habitats with loose, usually sandy, soil. | **HABITAT PRESENT** Marginal habitat present in Area A and Area E |
| Pallid Bat | *Antrozous pallidus* | SSC | Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitat with rocky areas for roosting. Roost alone or in colonies (small and large) in crevices in rock outcrops and cliffs, caves, mines, trees, and human structures. Very sensitive to disturbance of roosting sites. | **HABITAT PRESENT** Marginal habitat present in Area A and Area E |

**Table 3**
Special-Status Wildlife Species and their Potential to Occur within the BSA

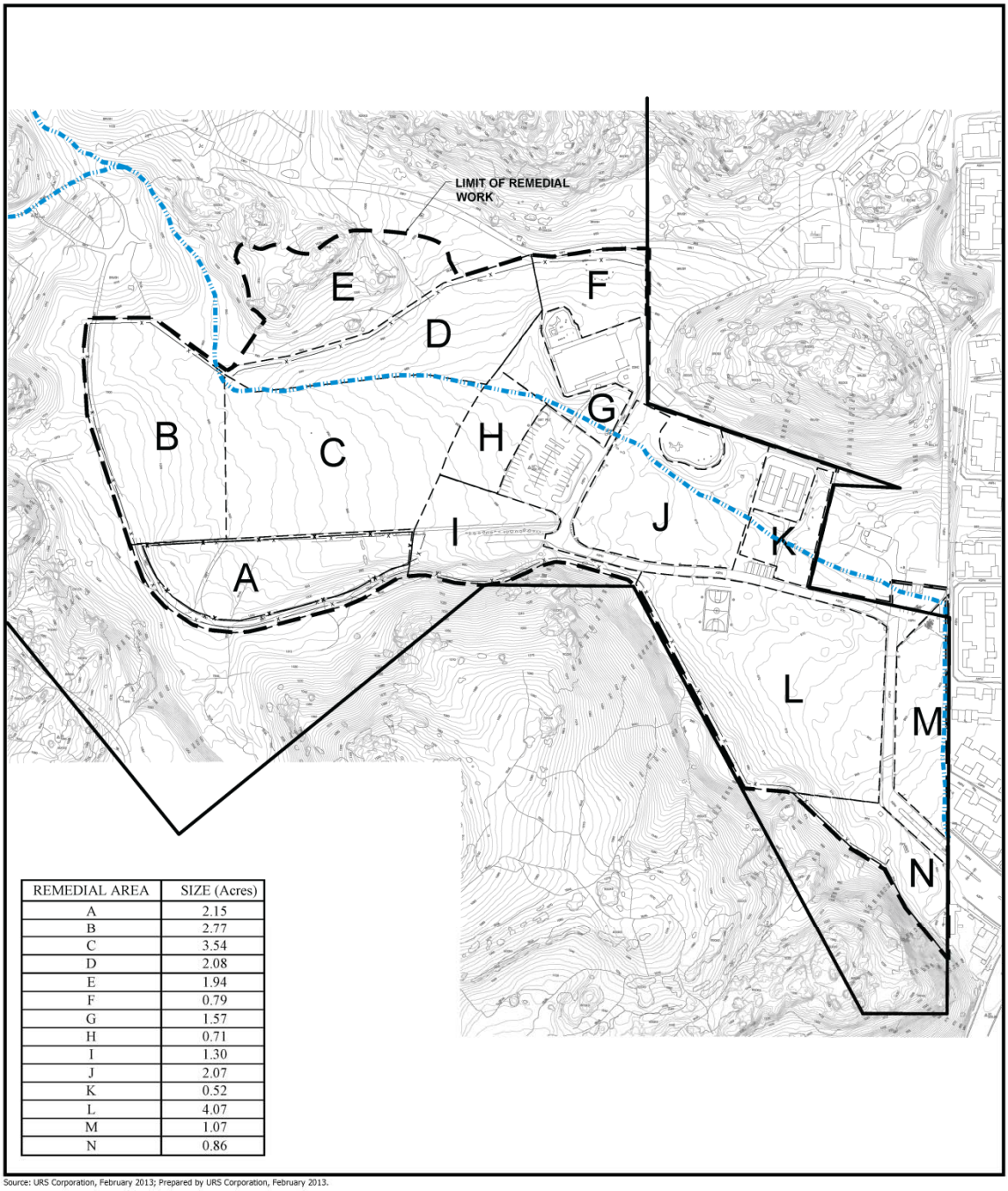
| Common Name | Scientific Name | Status[a] | General Habitat Description | Potential to Occur |
|---|---|---|---|---|
| Golden Eagle | *Aquila chrysaetos* | FP | Inhabits open country from barren areas to open coniferous forests, primarily in hilly and mountainous regions, but also in deserts and plains. Prefers cliffs and large trees with large horizontal branches and for roosting and perching. | **HABITAT PRESENT** Marginal foraging and perching areas within the BSA |
| Burrowing Owl | *Athene cunicularia* | SSC | Found in open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel (*Spermophilus beecheyi*). | **ABSENT** No suitable habitat present |
| Monarch Butterfly | *Danaus plexippus* | * | Occurs in a wide variety of habitats associated with milkweed (*Asclepias* spp.). | **ABSENT** No suitable habitat present |
| Western Pond Turtle | *Emys marmorata* | SSC | Occurs in herbaceous wetland, riparian, and sand/dune habitats in streams, rivers, ponds, and lakes. | **ABSENT** No suitable habitat present |
| Western Mastiff Bat | *Eumops perotis californicus* | SSC | Forages in dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas. Roosts in colonies under exfoliating rock slabs (e.g., granite, sandstone, or columnar basalt) and in similar crevices in large boulders and buildings; generally high above ground. | **HABITAT PRESENT** Habitat present in Area A and Area E |
| California Leaf-Nosed Bat | *Macrotus californicus* | SSC | Habitat is limited to Sonoran desert scrub, although historical range may have included other vegetation types. | **ABSENT** No suitable habitat present |
| San Diego Desert Woodrat | *Neotoma lepida intermedia* | SSC | Typically found in the coastal scrub of Southern California from San Diego County to San Luis Obispo County. Prefers moderate to dense vegetation canopies. They are particularly abundant in rock outcrops and rocky cliffs and slopes. | **HABITAT PRESENT** Habitat present in Area E |
| Coast Horned Lizard | *Phrynosoma blainvillii* | SSC | Found in a wide variety of habitats including coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest. Key habitat elements are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with a limited overstory for basking and low, but relatively dense shrubs for refuge. | **HABITAT PRESENT** Habitat present in Area A and Area E |
| Coastal California Gnatcatcher | *Polioptila californica californica* | FT SSC | Local, uncommon, obligate resident of arid coastal sage scrub vegetation on mesas and hillsides and in washes; nests almost exclusively in California sagebrush. | **HABITAT PRESENT** Marginal habitat present in Area A and Area E |
| California Red-Legged Frog | *Rana draytonii* | FT SSC | Found in or near freshwater marshes, streams, ponds, and lakes that are associated with riparian woodlands. | **ABSENT** No suitable habitat present |
| Gertsch's Socalchemmis Spider | *Socalchemmis gertschi* | * | Species is only known to occur in two locations, Brentwood and Topanga Canyon. Occurs in sage scrub, chaparral, oak woodland and coniferous forest in rocky outcroppings | **HABITAT PRESENT** Suitable habitat is present in Areas A and E |

**Table 3**
Special-Status Wildlife Species and their Potential to Occur within the BSA

| Common Name | Scientific Name | Status[a] | General Habitat Description | Potential to Occur |
|---|---|---|---|---|
| Western Spadefoot Toad | *Spea hammondii* | SSC | Occurs primarily in grasslands; occasional populations occur in valley foothill hardwood woodlands. Ranges throughout the Central Valley and adjacent foothills; usually common where it occurs. Found from near sea level to 1,362 m (4,470 ft) in elevation. | **ABSENT**<br>No suitable habitat present |
| Two-Striped Garter Snake | *Thamnophis hammondii* | SSC | Generally found around pools, creeks, cattle tanks, and other water sources; often in rocky areas, oak woodland, chaparral, brushland, and coniferous forest. | **HABITAT PRESENT**<br>Marginal habitat present in Area A and Area E |

Notes:
[a] Status Codes:
***Federal Endangered Species Act***
FE Federal endangered
FT Federal threatened
***California Endangered Species Act***
SE State endangered
ST State threatened
***California Department of Fish and Wildlife Code***
SSC California species of special concern
* Other (e.g., CDFW – Watch List, Bureau of Land Management – Sensitive, USFWS – Birds of Conservation Concern)

Source: URS Corporation, 2013; CNDDB, 2013




| REMEDIAL AREA | SIZE (Acres) |
|---|---|
| A | 2.15 |
| B | 2.77 |
| C | 3.54 |
| D | 2.08 |
| E | 1.94 |
| F | 0.79 |
| G | 1.57 |
| H | 0.71 |
| I | 1.30 |
| J | 2.07 |
| K | 0.52 |
| L | 4.07 |
| M | 1.07 |
| N | 0.86 |

Source: URS Corporation, February 2013; Prepared by URS Corporation, February 2013.

north
0 400 ft.
1" = 400 feet

**LEGEND**

Chatsworth Park South Boundary
Project Site
A Proposed Remediation Areas
Existing Blue-Line Stream

**Figure 3**
Existing Blue-Line Stream

# IMPACT ASSESSMENT

## Vegetation Communities

The proposed project will impact approximately 20.6 acres of developed parklands, including the removal of 166 existing trees within the Project site. An inventory of the trees within the park was conducted by the LADRAP Forestry Division in December, 2012. The results of this inventory, including the 166 trees to be removed and 44 trees to be protected in place, can be found in Appendix B. Additionally, Remediation Plan Area E will be grubbed and vacuumed, which will impact 1.94 acres of laurel sumac scrub. The proposed Project includes a plan to replant areas that are being affected with plants approved with coordination of the LADRAP Urban Forester. Less than significant impacts to native vegetation communities are expected.

### *Mitigation for Impacts to Vegetation Communities*

No mitigation measures are required as all potential impacts related to vegetation communities would be less than significant.

## Special-Status Plant Species

The planned activity in Remediation Plan Area E has the potential to impact five special-status plant species. Area E provides suitable habitat for all of these species, although the presence and extent of potential impacts cannot be determined without further studies during the appropriate blooming season (March through November). Additionally, the trees to be removed as part of the proposed Project may provide suitable habitat for nesting, foraging, and roosting raptors or other protected bird species under the MBTA.

### *Mitigation for Impacts to Special-Status Plant Species*

**MM-BIO-01:** Prior to grubbing of vegetation in Area E, focused plant surveys shall be conducted to determine the presence/absence of special-status plants in Area E. If the focused plant surveys determine the presence of special status plant species, the areas occupied by special-status plant species shall be avoided to the extent possible by modifying/reducing the scope of /not implementing the planned construction activities of Area E. The construction activities related to Area E that shall be modified/reduced in scope/not implemented would include but not be limited to grubbing, removal of groundscape, and/or removal of soils.

### *Level of Significance for Impacts to Special Status Plants After Mitigation*

With implementation of mitigation measure **MM-BIO-01**, potential impacts to special status plants would be reduced to less than significant.

## Special-Status Wildlife Species

The planned activity in Remediation Plan Area E has the potential to impact ten special-status wildlife species. Two of these species are listed under the ESA: the arroyo toad (Endangered) and coastal California gnatcatcher (Threatened). Area E provides suitable habitat for both of these species, although the presence and extent of the potential impacts cannot be determined without further studies during the appropriate survey period (February 15 to August 31 for the coastal California gnatcatcher and March 15 to July 31 for the arroyo toad).

### *Mitigation for Impacts to Special-Status Wildlife*

**MM-BIO-02:** Prior to remediation activities in Area E, pre-construction surveys shall be conducted for special-status wildlife species including: the arroyo toad (*Anaxyrus californicus*), silvery legless lizard (*Anniella pulchra pulchra*), pallid bat (*Antrozous pallidus*), golden eagle (*Aquila chrysaetos*), western mastiff bat (*Eumops perotis californicus*), San Diego desert woodrat (*Neotoma lepida intermedia*), coast horned lizard (*Phrynosoma blainvillii*), coastal California gnatchatcher (*Polioptila californica californica*), Gertsch's socalchemmis spider (*Socalchemmis gertschi*), and two-striped garter snake (*Thamnophis hammondii*). If the pre-construction wildlife surveys determine the presence of special status wildlife species, the areas occupied by special-status wildlife species

shall be avoided to the extent possible by modifying/reducing the scope of /not implementing the planned construction activities of Area E. The construction activities related to Area E that shall be modified/ reduced in scope/not implemented would include but not be limited to grubbing, removal of groundscape, and/or removal of soils.

**MM-BIO-03**: If the pre-construction wildlife surveys conducted under mitigation measure **MM-BIO-02** determine that arroyo toads are present in Area E, no grubbing activities shall be conducted in suitable habitat during the breeding season for arroyo toad, March 15 through July 31.

**MM-BIO-04:** If the pre-construction wildlife surveys conducted under mitigation measure **MM-BIO-02** determine that arroyo toads are present in Area E, then prior to any remediation activities, exclusion fencing shall be installed around all suitable habitat for the arroyo toad within Area E. The exclusion fencing shall consist of plastic or fabric at least 2 feet high, firmly staked to the ground with the lower one foot of the fencing stretched out along the ground and held in place with a continuous line of gravel bags. Once the exclusion fencing is installed in the suitable arroyo toad habitat within Area E, an Agency approved arroyo toad biologist shall conduct three site visits to determine if any arroyo toads remain in the exclusion area. All fencing material shall be removed after the remediation and restoration work is completed for the areas of suitable habitat.

**MM-BIO-05:** If the pre-construction wildlife surveys conducted under mitigation measure **MM-BIO-02** determine that coastal California gnatcatchers are present in Area E, no work shall be conducted in the suitable coastal California gnatcatcher habitat within Area E during the breeding season, February 15 through August 31.

**MM-BIO-06:** Prior to commencing grubbing activities during nesting season (February 15 through August 31) in Area E, a qualified biologist shall conduct a survey of the area to be grubbed to check for the presence of active nests for special-status bird species, including coastal California gnatcatcher and all species covered under the MBTA. If evidence of nesting is found, no grubbing work shall take place in the nest area or within an appropriate buffer zone, to be determined by the biologist, until the biologist determines that the nests are no longer in active use.

**MM-BIO-07:** Prior to removal of any trees on site during the nesting season (February 15 through August 31), a qualified biologist shall survey the trees to be removed for the presence of active nests for raptors or other bird species protected under the MBTA. If a nest is found, no tree removal work will take place in the nest area or within a buffer zone, to be determined by the biologist, until the biologist determines that the nest is no longer in active use.

### *Level of Significance for Impacts to Special Status Wildlife After Mitigation*

With implementation of mitigation measures **MM-BIO-02** through **MM-BIO-07**, potential impacts to special status wildlife would be reduced to less than significant.

## Aquatic Resources

The proposed Project will place the existing unnamed blue-line stream into a culvert comprised of two belowground 36-inch reinforced concrete drain pipes which will retain the existing grade of the existing stream and will drain into a newly built detention basin (Refer to **Figure 3**). As part of the permitting process a jurisdictional determination of the unnamed blue-line stream would be required for consultation with the U.S. Army Corps of Engineers. The construction permitting will include appropriate measures that will be implemented to satisfactorily mitigate potential impacts to this resource. As this is part of the permitting process, no additional mitigation would be required. Therefore, impacts related to aquatic resources are anticipated to be less than significant.

### *Mitigation for Impacts to Aquatic Resources*

No mitigation measures are required as all potential impacts related to aquatic resources would be less than significant.

# REFERENCES

Baldwin, B.G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. Berkeley: University of California Press, 1568 pp.

Caltrans(California Department of Transportation). 2009. *Template for Natural Environment Study Document*. California Department of Transportation website, http://www.dot.ca.gov/ser/forms.htm , Accessed February 2013.

CDFW (California Department of Fish and Wildlife). 2012. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. Sacramento, CA: State of California, The Resources Agency, Department of Fish and Wildlife. October 2012.

City of Los Angeles. 2001. *Conservation Element of the City of Los Angeles General Plan*. City Planning Commission website, http://cityplanning.lacity.org/cwd/gnlpln/consvelt.pdf, Accessed February 2013.

City of Los Angeles. 2004. *Tree Conservation Policy*. Department of Recreation and Parks website, http://www.laparks.org/dos/forest/pdf/Appendices.pdf, Accessed February 2013.

CNDDB (California Natural Diversity Data Base). 2013. *RareFind California Department of Fish and Wildlife Natural Diversity Database for Redlands, Harrison Mountain, San Bernardino North, San Bernardino South, Riverside East, Riverside West, Sunnymead, El Casco,* and *Yucaipa, California USGS 7.5-Minute Quadrangles*. Sacramento, CA: California Department of Fish and Wildlife, Biogeographic Data Branch.

CNPS (California Native Plant Society). 2013. *Inventory of Rare and Endangered Plants* (online edition, v8-01a). California Native Plant Society. Sacramento, CA.

County of Los Angeles. 1980. *County of Los Angeles General Plan - Conservation and Open Space Element*. County of Los Angeles Department of Regional Planning website, http://planning.lacounty.gov/generalplan, Accessed February 2013.

Digital Globe website. 2009. *High Resolution Aerial photography of the BSA,* http://www.digitalglobe.com/, Accessed February 2013.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Wildlife. The Resources Agency, ed., p. 156. Sacramento, CA.

NWI (National Wetlands Inventory). 2007. *Wetlands and Deepwater Habitats of the Conterminous United States*. Vector digital data: CONUS_wet_poly. Washington, D.C. USFWS Branch of Resource and Mapping Support.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation, Second Edition*. California Native Plant Society, Sacramento. 1300 pp.

# ATTACHMENT 1

# LIST OF PLANTS OBSERVED WITHIN THE BSA

**Attachment Table 1**
List of Plants Observed within the BSA

| Scientific Name | Common Name |
|---|---|
| **GYMNOSPERMS** | |
| ***PINACEAE*** | **Pine Family** |
| *Pinus* sp. | Pine |
| **ANGIOSPERMAE**<br>Flowering Plants | |
| **DICOTYLEDONES** | |
| ***ADOXACEAE*** | **Muskroot Family** |
| *Sambucus nigra* ssp. *caerulea* | Blue Elderberry |
| ***ANACARDIACEAE*** | **Sumac Family** |
| *Malosma laurina* | Laurel Sumac |
| *Schinus terebinthifolius** | Brazilian Pepper Tree |
| *Toxicodendron diversilobum* | Western Poison Oak |
| ***ASTERACEAE (COMPOSITAE)*** | **Sunflower Family** |
| *Ambrosia psilostachya* | Western Ragweed |
| *Baccharis salicifolia ssp. salicifolia [Baccharis salicifolia]* | Mule Fat |
| *Corethrogyne filaginifolia [Lessingia filaginifolia]* | California-Aster |
| *Cotula australis** | Australian Cotula |
| *Hazardia squarrosa* | Saw-Toothed Goldenbush |
| *Hypochaeris glabra** | Smooth Cat's-Ear |
| *Pseudognaphalium biolettii [Gnaphalium bicolor]* | Bicolored Everlasting / Bioletti's Cudweed |
| *Senecio vulgaris** | Common Groundsel |
| *Silybum marianum** | Milk Thistle |
| *Sonchus asper* ssp. *asper** | Prickly Sow Thistle |
| *Sonchus oleraceus** | Common Sow Thistle |
| *Taraxacum officinale** | Common Dandelion |
| ***BORAGINACEAE*** | **Borage Family** |
| *Plagiobothrys* sp. | Popcorn Flower |
| ***BRASSICACEAE (CRUCIFERAE)*** | **Mustard Family** |
| *Capsella bursa-pastoris** | Shepherd's Purse |
| *Hirschfeldia incana** | Shortpod Mustard |
| *Sisymbrium irio** | London Rocket |
| ***CHENOPODIACEAE*** | **Goosefoot Family** |
| *Salsola tragus** | Russian Thistle |

**Attachment Table 1**
List of Plants Observed within the BSA

| Scientific Name | Common Name |
|---|---|
| ***CUCURBITACEAE*** | **Gourd Family** |
| *Marah macrocarpus* | Chilicothe |
| ***FABACEAE (LEGUMINOSAE)*** | **Legume Family** |
| *Acmispon glaber [Lotus scoparius]* | Deerweed |
| *Cercis occidentalis* | Western Redbud |
| ***FAGACEAE*** | **Oak / Beech Family** |
| *Quercus agrifolia* | Coast Live Oak |
| ***GERANIACEAE*** | **Geranium Family** |
| *Erodium cicutarium** | Red-Stemmed Filaree |
| ***LAMIACEAE (LABIATAE)*** | **Mint Family** |
| *Lamium amplexicaule* | Common Henbit |
| *Marrubium vulgare** | Common Horehound |
| ***MALVACEAE*** | **Mallow Family** |
| *Malacothamnus fasciculatus* | Chaparral Bushmallow |
| *Malva parviflora** | Cheeseweed |
| ***MYRTACEAE*** | **Myrtle Family** |
| *Eucalyptus* sp.* | Gum |
| ***ONAGRACEAE*** | **Evening Primrose Family** |
| *Camissonia micrantha* | Small Primrose |
| ***OXALIDACEAE*** | **Wood-Sorrel Family** |
| *Oxalis pes-caprae** | Bermuda Buttercup / Sour Grass |
| ***PLATANACEAE*** | **Sycamore Family** |
| *Platanus x hispanica* | London Plane Tree |
| *Platanus racemosa* | Western Sycamore |
| ***POLYGONACEAE*** | **Buckwheat Family** |
| *Eriogonum fasciculatum* | California Buckwheat |
| ***SALICACEAE*** | **Willow Family** |
| *Salix gooddingii* | Goodding's Black Willow |
| *Salix lasiolepis* | Arroyo Willow |
| ***SOLANACEAE*** | **Nightshade Family** |
| *Nicotiana glauca** | Tree Tobacco |
| *Solanum xanti* | Chaparral Nightshade |

**Attachment Table 1**
List of Plants Observed within the BSA

| Scientific Name | Common Name |
|---|---|
| ***VISCACEAE*** | **Mistletoe Family** |
| *Phoradendron serotinum* ssp. *macrophyllum* *[Phoradendron macrophyllum]* | Big Leaf Mistletoe |
| **MONOCOTYLEDONES** | |
| ***ARECACEAE (PALMAE)*** | **Palm Family** |
| *Washingtonia robusta** | Mexican Fan Palm |
| ***POACEAE [GRAMINEAE]*** | **Grass Family** |
| *Bromus diandrus** | Ripgut Grass |
| *Hordeum murinum* var. *leporinum** | Hare Barley |
| *Pennisetum setaceum** | Crimson Fountain Grass |
| ***TYPHACEAE*** | **Cattail Family** |
| *Typha domingensis* | Southern Cattail |
| Notes: * non-native species<br>Sources: URS Corporation , 2013; Baldwin, 2012 | |

# ATTACHMENT 2

# TREE INVENTORY

# CITY OF LOS ANGELES DEPARTMENT OF RECREATION AND PARKS FORESTRY DIVISION

# DECEMBER 2012

# Chatsworth South Proposed Removal Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17372 | | 21 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17373 | | 14 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17374 | | 17 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17375 | | 20 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17376 | | 14 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17425 | | 17 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17426 | | 21 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17427 | | 17 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17428 | | 19 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17431 | | 27 | 51 - 75 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17432 | | 14 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17433 | | 15 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17434 | | 24 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17435 | | 16 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17443 | | 21 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17444 | | 28 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17445 | | 26 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17447 | | 20 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17448 | | 24 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17449 | | 35 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17450 | | 20 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17451 | | 22 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17452 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17453 | | 22 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Cassia leptophylla/GOLD MEDALLION TREE | 17279 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Cassia leptophylla/GOLD MEDALLION TREE | 17280 | | 3 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Cassia leptophylla/GOLD MEDALLION TREE | 17303 | | 10 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Cercis Canadensis/EASTERN REDBUD | 5448 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Cercis Canadensis/EASTERN REDBUD | 6497 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Cercis Canadensis/EASTERN REDBUD | 6498 | | 21 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Cercis Canadensis/EASTERN REDBUD | 6578 | | 10 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Cinnamomum camphora/CAMPHOR TREE | 17307 | | 3 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Cinnamomum camphora/CAMPHOR TREE | 17308 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Cinnamomum camphora/CAMPHOR TREE | 17309 | | 2 | 01 - 10 ft. | No | No |

# Chatsworth South Proposed Removal Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Cinnamomum camphora/CAMPHOR TREE | 17310 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Cinnamomum camphora/CAMPHOR TREE | 17397 | | 13 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Cinnamomum camphora/CAMPHOR TREE | 17398 | | 11 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 5868 | | 60 | 51 - 75 ft. | No | Yes |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 6443 | | 41 | 76+ | No | Yes |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 6444 | | 68 | 76+ | No | Yes |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 6445 | | 66 | 51 - 75 ft. | No | Yes |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 6476 | | 72 | 76+ | No | Yes |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 6477 | | 87 | 51 - 75 ft. | No | Yes |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 17336 | | 17 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 17337 | | 13 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 17338 | | 35 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Eucalyptus globulus/BLUE GUM | 17339 | | 32 | 51 - 75 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17302 | | 28 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17311 | | 18 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17312 | | 22 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17313 | | 19 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17314 | | 14 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17315 | | 26 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17333 | | 23 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17344 | | 23 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17345 | | 19 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17346 | | 21 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17362 | | 24 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17363 | | 16 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17364 | | 23 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17365 | | 22 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Fraxinus velutina modesto/MODESTO ASH | 17383 | | 11 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Ginkgo biloba/MAIDENHAIR TREE | 17416 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Ginkgo biloba/MAIDENHAIR TREE | 17440 | | 13 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Koelreuteria bipinnata/CHINESE FLAME TREE | 17399 | | 19 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Koelreuteria bipinnata/CHINESE FLAME TREE | 17400 | | 10 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Koelreuteria bipinnata/CHINESE FLAME TREE | 17401 | | 7 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Liquidambar styraciflua/AMERICAN SWEETGUM | 17418 | | 14 | 41 - 50 ft. | No | No |

# Chatsworth South Proposed Removal Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Liquidambar styraciflua/AMERICAN SWEETGUM | 17419 | | 14 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Liquidambar styraciflua/AMERICAN SWEETGUM | 17420 | | 13 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Magnolia grandiflora/SOUTHERN MAGNOLIA | 17306 | | 1 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Olea europaea/OLIVE | 6474 | | 47 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Parkinsonia aculeate/JERUSALEM THORN | 17301 | | 12 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Parkinsonia aculeate/JERUSALEM THORN | 17304 | | 3 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17323 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17324 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17325 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17326 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17328 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17329 | | 5 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17330 | | 3 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17347 | | 4 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17348 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17349 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17350 | | 26 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17355 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17358 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17359 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Pinus halepensis/ALEPPO PINE | 17353 | | 27 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Pinus pinea/ITALIAN STONE PINE | 17300 | | 6 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17285 | | 14 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17286 | | 13 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17287 | | 23 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17288 | | 17 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17289 | | 15 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17290 | | 22 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17291 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17292 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17294 | | 13 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17295 | | 13 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17296 | | 28 | 51 - 75 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17298 | | 5 | 11 - 20 ft. | No | No |

# Chatsworth South Proposed Removal Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17351 | | 10 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17352 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17354 | | 14 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17356 | | 18 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17357 | | 16 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17389 | | 19 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17390 | | 9 | 11 - 20 ft. | Yes | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17393 | | 11 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17396 | | 19 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17402 | | 15 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17421 | | 19 | 51 - 75 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17422 | | 14 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17423 | | 19 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17437 | | 17 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17438 | | 13 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Platanus acerifolia/LONDON PLANE | 17446 | | 19 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17297 | | 19 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17317 | | 4 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17318 | | 6 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17319 | | 6 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17320 | | 6 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17321 | | 3 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17366 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17367 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17368 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17369 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17370 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17377 | | 24 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17378 | | 20 | 51 - 75 ft. | Yes | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17379 | | 16 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17380 | | 4 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17382 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Populus fremontii/FREMONT COTTONWOOD | 6487 | | 31 | 41 - 50 ft. | No | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17360 | | 10 | 11 - 20 ft. | Yes | No |

# Chatsworth South Proposed Removal Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17361 | | 18 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17381 | | 1 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17403 | | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17417 | | 3 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17391 | | 12 | 21 - 30 ft. | Yes | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17395 | | 10 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17411 | | 18 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17412 | | 17 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17413 | | 13 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17414 | | 8 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17415 | | 10 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17439 | | 20 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17305 | | 1 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17322 | | 21 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17327 | | 21 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17334 | | 18 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17335 | | 8 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17342 | | 29 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Salix lasiolepis/ARROYO WILLOW | 5444 | | 33 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Schinus molle/CALIFORNIA PEPPER | 17293 | | 33 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Schinus molle/CALIFORNIA PEPPER | 17299 | | 43 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17281 | | 22 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17282 | | 17 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17283 | | 30 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17284 | | 21 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17316 | | 29 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17331 | | 21 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17340 | | 15 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17341 | | 19 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Ulmus pumila/SIBERIAN ELM | 17343 | | 26 | 41 - 50 ft. | No | No |
| **Total** | | 166 | | **2818** | | | |

# Chatsworth South Protect in Place Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Alnus rhombifolia/WHITE ALDER | 17424 | Protect in place. | 17 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Cupressus arizonica/ARIZONA CYPRESS | 5673 | Protect in place. | 38 | 31 - 40 ft. | No | Yes |
| Chatsworth Park South | Cupressus arizonica/ARIZONA CYPRESS | 5793 | Protect in place. | 21 | 31 - 40 ft. | No | Yes |
| Chatsworth Park South | Cupressus arizonica/ARIZONA CYPRESS | 6049 | Protect in place. | 42 | 31 - 40 ft. | No | Yes |
| Chatsworth Park South | Cupressus arizonica/ARIZONA CYPRESS | 6470 | Protect in place. | 29 | 11 - 20 ft. | No | Yes |
| Chatsworth Park South | Pinus canariensis/CANARY ISLAND PINE | 17404 | Protect in place. | 8 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Pinus halepensis/ALEPPO PINE | 17410 | Protect in place. | 55 | 51 - 75 ft. | No | No |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 5870 | Protect in place. | 83 | 51 - 75 ft. | Yes | Yes |
| Chatsworth Park South | Platanus racemosa/CALIFORNIA SYCAMORE | 17371 | Protect in place. | 31 | 51 - 75 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 5672 | Protect in place. | 26 | 21 - 30 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 5869 | Protect in place. | 56 | 31 - 40 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 5874 | Protect in place. | 40 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 5875 | Protect in place. | 60 | 41 - 50 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6441 | Protect in place. | 36 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6442 | Protect in place. | 28 | 21 - 30 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6446 | Protect in place. | 59 | 31 - 40 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6447 | Protect in place. | 50 | 51 - 75 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6475 | Protect in place. | 31 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6478 | Protect in place. | 56 | 41 - 50 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6480 | Protect in place. | 45 | 31 - 40 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6481 | Protect in place. | 45 | 21 - 30 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6482 | Protect in place. | 75 | 51 - 75 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6483 | Protect in place. | 62 | 51 - 75 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6484 | Protect in place. | 31 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6485 | Protect in place. | 60 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6496 | Protect in place. | 44 | 41 - 50 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6555 | Protect in place. | 54 | 31 - 40 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 6577 | Protect in place. | 78 | 41 - 50 ft. | Yes | Yes |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17332 | Protect in place. | 48 | 21 - 30 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17386 | Protect in place. | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17387 | Protect in place. | 2 | 01 - 10 ft. | No | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17405 | Protect in place. | 19 | 11 - 20 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17406 | Protect in place. | 20 | 21 - 30 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17407 | Protect in place. | 11 | 21 - 30 ft. | Yes | No |

# Chatsworth South Protect in Place Tree Report

| Park Name | Species | Site ID | Comment | Diameter | Height | Protected Tree | Heritage Tree |
|---|---|---|---|---|---|---|---|
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17408 | Protect in place. | 15 | 11 - 20 ft. | Yes | No |
| Chatsworth Park South | Quercus agrifolia/COAST LIVE OAK | 17409 | Protect in place. | 6 | 01 - 10 ft. | Yes | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17384 | Protect in place. | 21 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17385 | Protect in place. | 17 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17388 | Protect in place. | 9 | 11 - 20 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17394 | Protect in place. | 18 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17436 | Protect in place. | 44 | 31 - 40 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17441 | Protect in place. | 18 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Quercus virginiana/SOUTHERN LIVE OAK | 17442 | Protect in place. | 11 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Robinia pseudoacacia/BLACK LOCUST | 17392 | Protect in place. | 14 | 21 - 30 ft. | No | No |
| Chatsworth Park South | Salix lasiolepis/ARROYO WILLOW | 6479 | Protect in place. | 55 | 21 - 30 ft. | No | No |
| **Total** | | 44 | | **1590** | | | |