Project

Bowtie Parcel Demonstration Wetland Project Initial Study/Mitigated Negative Declaration

April 19, 2023

Prepared for:

California State Parks, Angeles District
1925 Las Virgenes Road
Calabasas, CA 91302

Prepared by:

Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

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Initial Study/Mitigated Negative Declaration

Project:

Bowtie Parcel Demonstration Wetland Project Initial Study

Lead Agency:

California Department of Parks and Recreation (CDPR)

Environmental Determination

Pursuant to Section 21082.1 of the California Environmental Quality Act (CEQA), CDPR has independently reviewed and analyzed this Initial Study (IS) for the Proposed Project and finds that it reflects the independent judgment of CDPR. CDPR, as lead agency, confirms that the Proposed Project mitigation measures detailed are feasible, will be implemented and will reduce all impacts to a less than significant level.

Lori Harrod — Date

Angeles District Superintendent

Luke Serna — Date

Associate Park & Recreation Specialist

Southern Service Center Environmental Coordinator

Project:	Bowtie Parcel Demonstration Wetland Project
Lead Agency:	California Department of Parks and Recreation, Southern Service Center 2797 Truxtun Road San Diego, CA 92106
Project Sponsor:	The Nature Conservancy
Project Location:	The Proposed Project would occupy approximately 3.2 acres at the northernmost end of the former Southern Pacific Taylor Yard in the City of Los Angeles (Assessor's Parcel Number 5442-002).
Project Description:	The California Department of Parks and Recreation (State Parks) proposes redeveloping the northern portion of a former rail yard into a publicly accessible urban greenspace. The greenspace would include habitat restoration and enhancement; water quality improvements; viewing opportunities for local wildlife; walking, jogging, and biking trails; seating areas; and interpretive and educational elements.
Public Review Period:	April, 25, 2023 to June, 8, 2023

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Biological Resources

BIO-1 Wildlife Pre-Construction Clearance Surveys and Biological Monitoring: Prior to ground disturbance or vegetation clearing within the proposed Project site, a qualified biologist shall conduct pre-construction clearance surveys for wildlife (no more than 7 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. Wildlife found within the proposed Project site or in areas potentially affected by the proposed Project shall be relocated to the nearest suitable habitat that would not be affected by the proposed Project prior to the start of construction. Special-status species found within a proposed Project impact area shall be relocated by a qualified biologist to suitable habitat outside the impact area prior to the start of ground-disturbing activities that may impact those species; this activity may be subject to prior incidental take authorization if required. Nesting birds found within the proposed Project impact areas shall be subject to buffer requirements and additional conditions as detailed below in mitigation measure BIO-4.

A qualified biologist shall be onsite during all ground disturbance and vegetation removal activities throughout the construction phase. The qualified biologist(s) shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed, the species are allowed to leave, or are removed, and the species is no longer at risk. The qualified biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite.

If required during pre-construction clearance surveys or required monitoring efforts, the qualified biologist(s) shall relocate common and special-status species that enter the proposed Project site; some special-status species may require specific permits prior to handling or have established protocols for relocation. Records of all detection, capture, and release shall be reported to CDFW and/or USFWS as appropriate. Should a federally or State listed species be discovered onsite, at any time, then activities shall be suspended, and the USFWS and/or CDFW contacted, as appropriate. Work shall not resume until coordination/consultation with the USFWS and/or CDFW has been completed, and recommended measures/ requirements have been implemented to minimize harm/harassment to the species.

BIO-2 Environmental Awareness Training: Prior to initial ground disturbance, the Applicant shall submit proof to California State Parks that all proposed Project personnel have attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the proposed Project team shall comply with. The training program shall include applicable measures established for the proposed Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to California State Parks. Copies of all training materials shall be maintained at the site for workers to reference and shall be provided in Spanish, as needed. A qualified biologist shall provide and document all trainings.

BIO-3 Implement Best Management Practices: Implement Best Management Practices: Prior to initial ground disturbance, the Applicant shall submit grading plans and specifications to California State Parks, which indicate that the proposed Project shall implement the following BMPs:

- Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation.
- All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth dirt fill or wooden planks; escape ramps should be placed at an angle no greater than 30 degrees. Trenches shall also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped wildlife. Any wildlife discovered shall be allowed to escape before construction activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).
- All staged equipment, staged materials (e.g., pipe) or any other construction products that could shelter small animals overnight or during periods of work inactivity, shall be inspected for wildlife prior to moving. All sections of pipe shall be visually checked for the presence of wildlife prior to being removed from the project site. If any sections of pipes are being stored onsite for any length of time, they shall be visually checked to ensure wildlife is absent and then all ends capped to prevent wildlife entry.

- Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians.

- Removal or disturbance of vegetation shall be minimized to the greatest extent feasible.

- Installation and maintenance of appropriate erosion and sediment control measures as needed throughout the duration of work activities.

- Implementation of a 15 miles per hour (MPH) speed limit within all proposed Project areas.

- No vehicles or equipment shall be refueled, cleaned, or maintained (e.g., oil changed), nor shall other actions (e.g., washing of tools used for painting) that could result in the release of a hazardous substance, occur within 100 feet of a drainage or wetland unless a bermed and lined refueling area is constructed that would prevent the accidental spill of fuel, oil, or chemicals. Approved/designated areas should be in a location where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water), unless a requested exception is granted or prior written approval obtained. Spill kits shall be maintained onsite in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each; any spills or discharges shall be immediately contained, cleaned up, and properly disposed.

- The proposed Project area shall be kept clear of trash to avoid attracting scavengers/predators. All food and garbage shall be placed in sealed containers and regularly removed from the site. Following construction, any trash, debris, or rubbish remaining within the work limits shall be collected and hauled off to an appropriate facility.

- No rodent poisons or rodenticide shall be used to control rodents. These products, even used properly, can lead to secondary exposure to wildlife.

- All work shall be performed during daylight hours. No nighttime operations (including lighting) shall be authorized to complete the project.

- Work limits, as defined on project plans, shall be clearly delineated onsite (e.g., using orange snow fence, silt fence, lath and survey tape, etc.) prior to the start of any construction activities. No work shall occur outside of the approved work limits.

- Work shall be limited to the construction footprint, as outlined in the Project plans. Access routes, staging areas, and the total footprint of disturbance shall be limited to the minimum number/size necessary to complete the Project and avoid resource impacts. All routes of travel and work boundaries shall be configured to avoid unnecessary intrusions into surrounding habitat.

- Conditions set forth in any project-related permits/approvals shall be observed and implemented as part of construction.

- No erosion control materials potentially harmful to fish and wildlife species, such as plastic mesh, mono-filament netting, or similar material shall be used. Erosion and sediment control devices, such as erosion control blankets, erosion control netting, and fiber rolls, shall be made of biodegradable loose-weave mesh that is not fused at the intersections of the weave (i.e., jute, coir/coconut fiber, or other natural fiber products without welded weaves) to avoid creating a wildlife entanglement hazard. In addition, weed-free products shall be used to minimize the spread of exotics.

- All equipment shall be cleaned of dirt and vegetative material prior to arrival at and departure from the Project site to minimize the opportunity for the spread of non-native species, including noxious weeds. All imported fill shall be clean/certified free of invasive species.
- Any non-native, weedy vegetation removed during the clearing and grading activities shall be collected, treated, and disposed of as recommended by the qualified biologist.

BIO-4 Nesting Bird Surveys and Avoidance Measures: Prior to initial ground disturbance or vegetation removal, the Applicant shall provide evidence to California State Parks of the following. If initial site disturbance is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 through August 15 for raptors), breeding and nesting bird surveys shall be conducted by a qualified biologist no more than 3 days prior to the start of site disturbance. Should work be suspended or delayed for a period of greater than seven 7 days (during the nesting season), then the qualified biologist, at their discretion, shall complete an additional nesting bird survey to ensure that no additional nesting has occurred within or adjacent to the Project area. If construction activities carry over into a second nesting season(s), the surveys shall be completed annually until the proposed Project is complete. Surveys shall be conducted within 500 feet of all proposed Project activities.

The Applicant shall coordinate with USFWS and/or CDFW if endangered or threatened species are observed. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest, and no activities shall be allowed within the buffer(s) until the young have fledged from the nest or the nest fails; initial buffers for nesting raptors shall be 500 feet; a buffer of 0.25 mile shall be used for nesting peregrine falcon unless the line-of-sight from the edge of development is obscured as determined by a qualified ornithologist. The prescribed buffers for common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors; for example, buffers for common passerines, often found to be habituated to human activity, may be adjusted down to 25 - 50 feet depending on the disturbance tolerance of each specific species. Buffer adjustments for listed and/or other special-status species shall be done in coordination with the USFWS and CDFW as applicable. The qualified biologist shall conduct regular monitoring of the nest to determine success or failure and to ensure that proposed Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails.

CR-1 Worker Environmental Awareness Program: Prior to construction activities, a qualified archaeologists meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology (qualified archaeologist) shall conduct cultural resources Worker environmental Awareness Program (WEAP) training for all construction personnel. Construction personnel shall be informed of the proposer procedures for treating cultural resources that may be encountered during construction activities.

CR-2 Archaeological Monitoring During Construction: A qualified archeological monitor (working under the direct supervision of a qualified archaeologist meeting the Secretary of the Interior’s Professional

Qualifications Standards for archaeology) shall be present to monitor all ground-disturbing activities associated with the Project.

The archaeological monitor shall be empowered to redirect construction activity in the even that archaeological resources are encountered, for the purposes of documenting the resource for evaluation by a qualified archaeologist. The archaeological monitor shall keep daily logs and provide updates to TNC upon request. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring, which shall be submitted to TNC and to the South Central Coastal Information Center at California State University, Fullerton

CR-3 Protection of Encountered Archaeological Resources: If a potentially significant archaeological resource is encountered, it shall be evaluated by a qualified archaeologist in coordination with a California State Parks cultural resources specialist. If the resource is determined to be significant, appropriate avoidance, site capping (burial), creation of conservation easements, and/or data recovery shall be implemented in accordance with Secretary of the Interior's Standards to bring the potential impact to that resource to levels less than significant.

GEO-1 Paleontological Monitoring and Mitigation Plan: A paleontologist meeting professional standards of the Society of Vertebrate Paleontology (2010) shall be retained as the project paleontologist to oversee all aspects of paleontological mitigation, including the development and implementation of a Paleontological Monitoring and Mitigation Plan (PMMP) tailored to the Project plans that provides for paleontological monitoring of earthwork and ground disturbing activities into undisturbed geologic units with high paleontological potential to be conducted by a paleontological monitor meeting industry standards (Murphey et al. 2019). The PMMP should also include provisions for a Workers' Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of paleontological resources during construction, to be delivered by the paleontological monitor to the construction crew prior to the onset of ground disturbance. As the Project is on California State Parks lands, a permit shall be required from California State Parks for this work.

GEO-2 Paleontological Monitoring During Construction: Paleontological monitoring shall be conducted by a qualified paleontological monitor for ground disturbance that exceeds 10 feet in depth across the Project area. The project paleontologist may reduce the frequency of monitoring should subsurface conditions indicate low paleontological potential.

GEO-3 Management of Paleontological Resources: Should a potential paleontological resource be identified in the Project area, whether by the monitor or a member of the construction crew, work shall halt in a safe radius around the find (usually 50 feet) until the Project paleontologist can assess the find and, if significant, salvage the fossil for laboratory preparation and curation at the Natural History Museum of Los Angeles County.

TCR-1 Tribal Cultural Resources Monitoring During Construction: The Project Proponent shall obtain the services of a qualified Native American Monitor(s) during construction-related ground disturbance activities. Ground disturbance is defined by the Tribal Representatives from the Gabrieleño Band of Mission Indians-Kizh Nation as activities that include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, weed abatement, boring, grading, excavation, drilling, and trenching, within the project area.

The monitor(s) must be approved by the Tribal Representatives and will be present on-site during the construction phases that involve any ground disturbing activities. The Native American Monitor(s) will complete monitoring logs on a daily basis. The logs will provide descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. In addition, the monitor(s) will be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21083.2 (a) through (k). The on-site monitoring shall end when the Project site grading and excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for archeological resources.

TCR-2 Unanticipated Discovery of Tribal Cultural Resources: All archaeological resources unearthed by project construction activities shall be evaluated by the Qualified Archaeologist and Native Monitor. If the resources are Native American in origin, the Tribe shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If a resource is determined by the Qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or has a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the Qualified Archaeologist shall coordinate with the applicant and the City to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

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Abbreviations

ADA	American Disabilities Act
AQMP	Air Quality Management Plan
ARBOR Project	Area with Restoration Benefits an Opportunities for Revitalization
BGS	Below ground surface
BSA	Biological Study Area
CalEPA	California Environmental Protection Agency
CARB	California Air Resource Board
CAAQS	California Ambient Air Quality Standards
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CFS	Cubic feet per second
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CRHR	California Register of Historical Resources
DRAP	Department of Recreation and Parks
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
FESA	Federal Endangered Species Act
FSD	Facilities Service Division
HEP	Habitat Enhancement Plan
IRWMP	Integrated Regional Water Management Plan
IS	Initial Study
ISMND	Initial Study Mitigated Negative Declaration
LAFD	Los Angeles Fire Department
LAPD	Los Angeles Police Department
LARERP	Los Angeles River Ecosystem Restoration Project
LARR	Los Angeles River Revitalization
LST	Localized Significance Criteria
MRCA	Mountains Recreation and Conservation Authority
NAAQS	National Air Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOP	Notice of Preparation
NO_2	Nitrous oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
OHWM	Ordinary High Water Mark
PAH	Polycyclic aromatic hydrocarbons
PB	Lead
$PM_{2.5}$	Particulate Matter 2.5 microns
PM_{10}	Particulate Matter 10 microns

PMMP	Paleontological Monitoring and Mitigation Plan
RAW	Removal Action Workplan
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SO_2	Sulfur dioxide
TNC	The Nature Conservancy
UPPR	Union Pacific
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled
WEAP	Worker Environmental Awareness Program
WOTUS	Waters of the United States

1.0 INTRODUCTION

1.1 PROJECT TITLE

Bowtie Parcel Demonstration Wetland Project

1.2 LEAD AGENCY

California State Parks, Southern Service Center
2797 Truxtun Road
San Diego, CA 92106

Kelsey Henck, Project Manager

1.3 PROJECT SPONSOR

The Nature Conservancy
445 South Figueroa Street, Suite 1950
Los Angeles, CA 90071

Kelsey Jessup, Project Manager

1.4 PROJECT LOCATION

The Project is located within a 3.2-acre portion of a larger site located on land owned by the California Department of Parks and Recreation (California State Parks) at the northernmost end of the former Southern Pacific (SPRR) Taylor Yard in the City of Los Angeles. The 17.3-acre California State Parks property upon which the Project is located is referred to as the “Bowtie parcel” or by its former Southern Pacific Railroad “G-1” parcel designation, and identified by the Los Angeles Assessor as parcel number (APN) 5442-002-914.

1.5 PROJECT PURPOSE AND BENEFITS

The purpose of the Project is to enhance habitat, improve water quality, and increase public access to open space and the LA River. This Project would capture and treat water from a storm drain that previously discharged into the LA River, the water would be pumped into a wetland, the wetland would further improve water quality, a portion of the water would be used for irrigation, and the remaining enhanced water would be returned to the LA River. The Project would also include landscaping and amenities to convert the former brownfield site into habitat native to Southern California and a park space for the surrounding communities. The Project is in Reach 6 of the LA River on the Bowtie/G1 Parcel, the first of eight stages of the Alternatives with Restoration Benefits and Opportunities for Revitalization (ARBOR) Study which aims to revitalize habitats along 11 miles of the Los Angeles River (United States Army Corps of Engineers, 2015).

The Project would have the following benefits:

- Biological Resources. The Project would create an engineered wetland that incorporates valley, foothill, riparian strand, and freshwater marsh habitat adjacent to the Los Angeles River using dry-weather flow and treated stormwater diverted from an existing a Los Angeles County Flood Control District storm drain. The creation of this wetland habitat would have both botanical and wildlife-related benefits compared to existing site conditions which have limited habitat value for biological resources.

- Carbon Sequestration and Heat Island Reduction. The wetland and associated landscaping installed and maintained as part of the Project would result in a substantial increase in site vegetation, cover, and density compared to existing site conditions. The plant palette would be comprised of native plants historically occurring in valley, foothill, and riparian habitats of the Los Angeles River Basin, per the restoration objectives of the ARBOR Study (United States Army Corps of Engineers, 2015). This increase in site vegetation cover and density would result in an increase in carbon sequestration through a nature-based solution and provide an positive contribution to reducing climate change. The increase in site vegetation would also increase shade and reduce the local heat island effect.

- Hazardous and Hazards Materials. Concentrations of polycyclic aromatic hydrocarbons, petroleum hydrocarbons and lead above health risk screening levels have been measured in shallow soils. The Project would remove these shallow impacted soils as described in a Removal Action Workplan (RAW) prepared under the oversight of the California Department of Toxic Substances Control (DTSC) thereby improving environmental quality by removing a source of potential pollutant exposure.

- Water Quality. The Project includes pre-treatment of dry-weather flow and stormwater prior to flowing into the constructed wetland created as part of the Project. Flows that exceed the capacity volume of the wetland would be diverted through a connection with the existing stormwater outfall pipe that discharges into the Los Angeles River. Currently all dry weather and stormwater runoff are untreated and discharged directly into the LA River. The capture and pre-treatment of these flows proposed by the Project would reduce pollutant concentrations and have a beneficial water quality impact compared to existing conditions.

- Recreation. The Project involves re-developing a portion of a former rail yard into urban green spaces for public use and passive recreation. The design includes pathways, viewing platforms, signage, American Disabilities Act (ADA) access, and similar facilities that would provide passive recreation opportunities and benefits compared to none that currently exist at the site.

1.6 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

This Initial Study (IS) is an informational document intended to inform the lead agency, other responsible or interested agencies, and the general public of potential environmental effects of the proposed Project. The environmental review process has been established to enable public agencies to evaluate potential environmental consequences and to examine and implement methods of eliminating or reducing any potentially significant adverse impacts. This document is intended to aid California State Parks in determining the appropriate California Environmental Quality Act (CEQA) document needed to support y agency approvals, permits, and consultations. These permits, approvals, and consultations are summarized in Table 1.

Table 1 Agency Permits and Environmental Review Requirements

Agency	Permits and Other Approvals
California State Parks	California Environmental Quality Act Lead Agency; Adopt Initial Study/Mitigated Negative Declaration (IS/MND)
California Department of Toxic Substances Control	Approval of Removal Action Workplan
Regional Water Quality Control Board	Stormwater NPDES Permit, General Construction Order
Los Angeles County	Flood Control and Construction Permits
City of Los Angeles Building Permit	Building and U Permits
Los Angeles County Department of Public Health	Approval of treated stormwater for irrigation
Los Angeles Department of Water and Power	Right of Entry/Encroachment Permit

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Project involves redeveloping and restoring the northwest portion of a former rail yard into a publicly accessible urban greenspace and wetland that serves as habitat for native plants and animals. The new habitat would consist of uplands with a constructed wetland maintained through the use of treated dry-weather flow and treated stormwater. The Project is expected to divert and treat dry-weather flow and stormwater prior to its entry to the Los Angeles River. The drainage area is approximate 2,800 acres and would provide a substantial source of water, this area is depicted in Figure 1. The drainage area encompasses portions of both the City of Los Angeles and Glendale. The Project's stormwater treatment components include a diversion structure from the Los Angeles County Flood Control District's storm drain, pre-treatment units, a pump station, and a constructed wetland. The treated water would be used to irrigate the new habitat and water that isn't able to be used would passively overflow into an existing outfall into the Los Angeles River.

The Project Area was a part of the Taylor Yard rail yard complex, the former freight classification yard (1925-1973) of Southern Pacific Railroad. Taylor Yard is comprised of several parcels and the Bowtie parcel was previously referred to as the G1 parcel and may sometimes be referred to as such in reference documents. The potential to restore the natural resources of 57 acres on the Los Angeles River in the Glendale Narrows was one of the key considerations of California State Parks to purchase the land of the Taylor Yard rail yard complex.

The 247-acre Taylor Yard rail yard complex was historically divided into ten parcels, some of which were further subdivided for sale purposes, and two of which – Parcels D and G-1 – were purchased by California State Parks for Rio de Los Angeles State Park. The 40-acre Parcel D, acquired in 2001, is located between an active rail line and San Fernando Road; and the approximately 18-acre Parcel G-1, acquired in 2003, is located between the river and an industrial development. Formerly part of a 247-acre closed freight switching facility, these and several other parcels in the facility were vacant for two decades, as rail yard functions shifted offsite.

The Los Angeles River has become a focal point for open space acquisition by many groups within the densely urbanized neighborhoods of northeast Los Angeles to create parklands, open space, bikeways, and recreational opportunities for the betterment of ecological, social, and economic prosperity for the surrounding communities. Determined to address the imbalances in open space provision, communities banded together to resist a proposed industrial complex and instead offered a vision for the coexistence of habitat restoration and active recreation opportunity. This led to the development of a unique partnership between California State Parks, the Mountains Recreation and Conservation Authority (MRCA), and the City of Los Angeles, known as the 100 Acre Partnership.

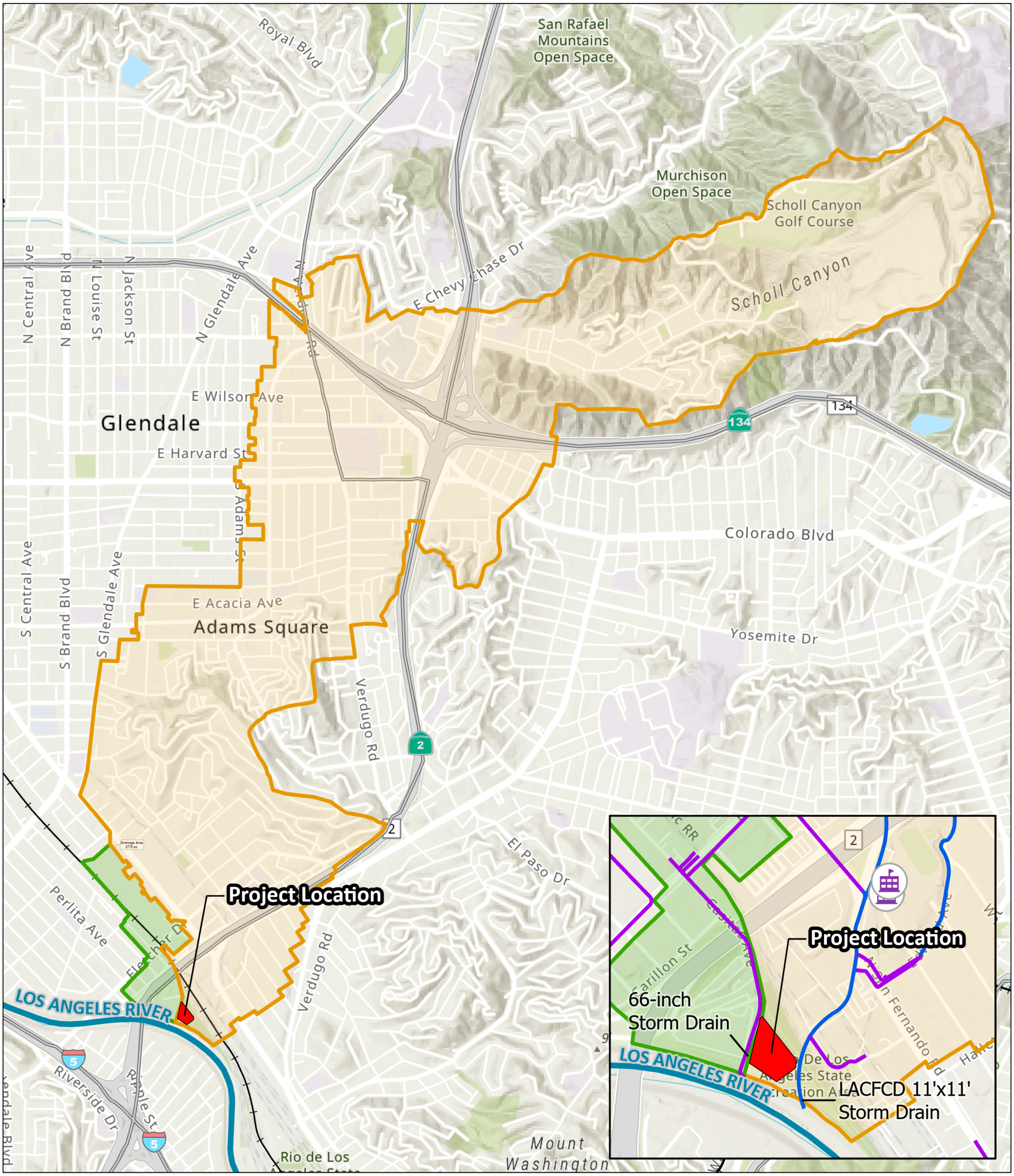
The 100 Acre Partnership is a joint agreement between City and State agencies to collaborate on revitalizing 100 acres of the former Taylor Yard rail yard complex into a contiguous public green space along the Los Angeles River. This partnership consists of:

- **Rio de Los Angeles State Park (former D Parcel):** A 40-acre State Park that opened in 2007 and co-managed by the City of Los Angeles and California State Parks. Rio de Los Angeles State Park inspired the vision to revitalize the 100 acres of Taylor Yard into green space.

- **The Bowtie (G-1 Parcel):** The Bowtie is considered part of Rio de Los Angeles State Park unit. G-1 is an approximately 18-acre parcel owned by California State Parks. The Bowtie consists of two separate projects:
    - The Demonstration Project (proposed Project and subject of this IS/MND) is located on an approximate 3.2-acre portion of the approximately 18-acre Bowtie parcel and includes redeveloping the northern portion of a former rail yard into a publicly accessible urban greenspace that includes a constructed wetland maintained through the use and treatment of dry-weather flow and stormwater.
    - The Bowtie Park Development Project is a comprehensive design for natural habitat, passive recreation, and water quality enhancement opportunities. The proposed greenspace would include habitat restoration and enhancement; viewing opportunities for local wildlife; walking, jogging, and biking trails; shaded picnic areas; historical, cultural, and environmental programming; and unstructured play areas.

- **The G-2 Parcel:** A 42-acre parcel owned by MRCA and 30 acres owned by the City of Los Angeles. This project is currently in preliminary planning and currently has no conceptual development plans.

- **Paseo Del Rio:** A 100 Acre Partnership collaborative project which would provide approximately one mile of walking trail and greenway that would run along the river and across both the Bowtie and G-2 parcels.



LACFCD Storm Drain
City of Los Angeles Storm Drain
Project Location
City Storm Drain Drainage Area
LACFCD Storm Drain Drainage Area

N
0 1,000 2,000 Feet
(At original document size of 8.5x11)

Figure 1 Project Location and Drainage Area

2.2 PROJECT LOCATION AND SITE DESCRIPTION

2.2.1 Current Site Conditions

The Project site is located at the northern tip of the former Southern Pacific Railroad Taylor Yard; the Project footprint occupies the northeastern bank of the Bowtie Parcel of the Los Angeles River. The Project, which encompasses approximately 3.2 acres of post-industrial landscape with both bare earth and some concrete debris, is in a Disadvantaged Communities area designated by CalEPA. They will be referred to as Overburdened Communities throughout this document. As described earlier, shallow soil has been shown to contain concentrations of lead and petroleum hydrocarbons above background levels.

2.2.2 Surrounding Land Uses

The Project is immediately adjacent to the Los Angeles River and industrial land uses/commercial areas (Park and Y Co Inc, Leafs Properties LP, Rexford Industrial, Extra Space Properties, and Superline Inc). Railroad tracks that border the east of the Parcel are active for Amtrak, Metrolink, and freight trains. Areas of residential development including some Overburdened Communities within the City of Los Angeles near Atwater Village and Elysian Valley are located adjacent to the industrial/commercial land uses surrounding the project site.

2.3 PROJECT COMPONENTS

The Project involves the following:

- A constructed wetland to provide treatment for all flows less than 5 cubic feet per second (cfs). The wetland would provide treatment and storage to sustain habitat and is sized to hold and retain 129,800 cubic feet of surface water and contain an additional 20,000 cubic feet of water storage in the pore space between rocks located in the wetland.

- Excavation and offsite disposal to address hazardous substances from rail operations described in the Removal Action Workplan (Appendix E).

- Diversion from an existing 11-foot by 11-foot Los Angeles County owned storm drain.

- A pump station to bring dry-weather flow and stormwater to the treatment system.

- A stormwater treatment system comprised of hydrodynamic separators and a filter to remove solids and other constituents of concern from diverted dry-weather flow and stormwater. A Hydrodynamic separator utilizes the velocity of the water and swirl separation to remove debris and large sediments from the incoming stormwater. The filter utilizes media to separate smaller sediments from the water. The combination of these two treatment technologies will limit the amount of debris and sediment entering the wetland providing improved water quality.

- A discharge pipeline and an overflow structure to control water into and out of the wetland and to control the water level.

- Stormwater and low-flow would be diverted from the existing County of Los Angeles storm drain via gravity into a below-grade treatment system and pump station. The pump station would pump the water into the wetland. The water would travel through the wetland for further treatment and discharge via gravity into the storm drain and ultimately into the Los Angeles River. A portion of the water will be utilized for irrigation of native vegetation and to support fauna. The remainder will be discharged at a much higher water quality into the Los Angeles River.
- Habitat enhancement that involves the planting of native plants and other habitat features and enhancement measures throughout the Project's upland, riparian, and wetland areas.

A process flow diagram and site layout plan are illustrated below in Figures 2 and 3, respectively. Figure 2 uses the term wet-weather flows which refer to stormwater flows.

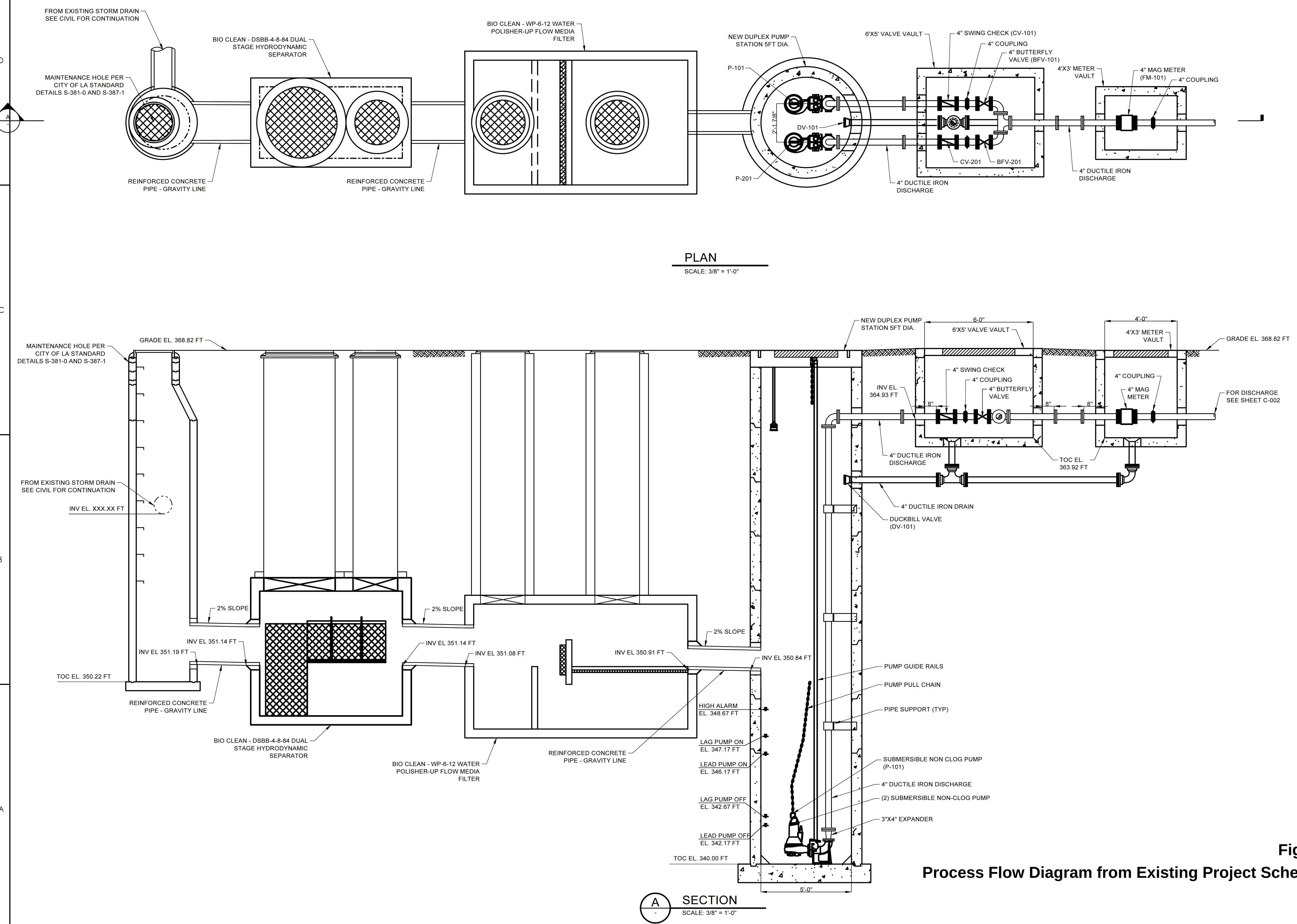


Figure 2
Process Flow Diagram from Existing Project Schematic

PLANT SYMBOL LEGEND

- UPLAND-1 COASTAL OAK WOODLAND COMMUNITY
- UPLAND-2 NATIVE DECIDOUS
- UPLAND-1 NATIVE EVERGREEN
- TRANSITIONAL-1 NATIVE DECIDOUS
- TRANSITIONAL-2 NATIVE DECIDUOUS
- UPLAND-1: COASTAL OAK WOODLAND (ABOVE 367)
- UPLAND-2: SAGEBRUSH SCRUB (ABOVE 367)
- TRANSITIONAL-1: WILLOW THICKETS (365 TO 367)
- RIPARIAN 1: LOW STATURE MARSH (361 TO 365)
- RIPARIAN 2: LOW MARSH RUSH DOMINANT
- TRANSITIONAL-2: COTTONWOOD WOODLAND (365 TO 367)

SITE HARDSCAPE SURFACES LEGEND

- PERIMETER PATH - DECOMPOSED GRANITE, SEE CIVIL PLANS AND DETAILS
- DECOMPOSED GRANITE - PEDESTRIAN SURFACE SEE DETAIL L-911,
- DECOMPOSED GRANITE PATH -PEDESTRIAN SURFACE, SEE DETAIL L-911,
- RECYCLED WOOD DECKING, SEE DETAIL L-913
- WETLAND RIFFLE GRAVEL AREA, SEE CIVIL PLANS FOR LAYOUT AND MATERIAL DESCRIPTIONS.
- WETLAND RIFFLE BOULDER AREA, SEE DETAIL L-9XX
- WETLAND WATER SURFACE - SEE CIVIL PLANS FOR WATER SURFACE ELEVATIONS
- MULCH ONLY AREA

Figure 3 Site Layout Plan

2.4 PROJECT CONSTRUCTION

2.4.1 Shallow Soil Removal and Site Preparation

An environmental assessment was performed to determine site environmental quality during the early Project planning phase as this property was once a part of a railyard and adjacent to historic industry and a transportation corridor. Results of site testing confirmed the presence of urban contaminants (primarily lead, polycyclic aromatic hydrocarbons, and petroleum hydrocarbons) in several samples of shallow soil collected within the Project site. Contaminant concentrations were high enough to warrant removal of shallow soil prior to the development of the demonstration wetlands and ancillary facilities. A Removal Action Workplan (RAW) that details the results of the environmental assessment and proposed soil remediation component of the Project was prepared and submitted to California Department of Toxic Substances Control consistent with California Health and Safety Code Section 25323.1 (Amicus, 2023). The RAW, which is included with this IS as Appendix E recommends removal of the shallow soil across the entire Project footprint to a depth of two feet below ground surface (bgs).

Shallow soil would be removed using conventional excavation equipment (i.e., grader, loader, and excavator) and either directly loaded into trucks or stockpiled for a short time to facilitate profiling prior to transport to an offsite receiving facility for recycling or disposal. Removing the top two feet of shallow soil would result in approximately 10,547 cubic yards of soil being excavated and requiring an estimated 904 truck trips at 14 cubic yards of bulk uncompacted soil to transport the soil offsite. This can be disposed of at a landfill for daily cover or another location. The remaining excavation necessary to construct the wetland, pump station, and site amenities would involve excavating approximately 7,565 cubic yards of soil, placing approximately 3,911 cubic yards of native soil back on the site, and removing from the site approximately 4,166 cubic yards of soil requiring an estimated 357 truck trips. This is clean soil that can be used as backfill offsite or disposed of by the Contractor. A liner consisting of high-density polyethylene would be installed under the constructed wetland feature to improve water retention. An additional estimate of 260 cubic yards of rip-rap and granular backfill would need to be transported onto the site via an estimated 23 truck trips. This material would be used as subbase material and as part of the riffle areas in the wetland.

2.4.2 Storm Drain Connection and Treatment System Installation

The Project would divert dry-weather flow and stormwater runoff from an existing 11-foot by 11-foot storm drain to a pre-treatment unit located onsite. The storm drain enters the southeast corner of the Project site from the boundary of the Southern Pacific Railroad tracks and follows an alignment along the southern boundary of the Project site for approximately 800 feet to its outfall into the Los Angeles River. The connection between the existing storm drains and proposed pre-treatment unit would be accomplished by installing a 24-inch diameter pipeline to collect the water and transport it to the pretreatment facilities.

The Project's dry-weather flow and stormwater treatment facilities would include a diversion structure from the Los Angeles County Flood Control District's storm drain, a hydrodynamic separator, and a filter. The pretreatment system is designed to remove settleable solids, most bacteria, and up to 60% of the dissolved pollutants.

2.4.3 Wetland Habitat and Landscape Installation

The Project would redevelop the northern, approximately 3.2-acre portion of the historic Taylor Yard with creation of a wandering waterway, and accompanying wetland, riparian, and upland habitat comprised of native plants historically occurring in Valley Foothill riparian and freshwater marsh habitats of the Los Angeles River Basin, per the restoration objectives of the Los Angeles River Ecosystem Restoration Project (LARERP) (Figure 3). Additional habitat features that provide cover and nesting sites for small native mammal, reptiles, birds, and native bees would also be installed.

2.4.4 Amenities

The Project would incorporate durable site features and amenities to enhance the human experience. These amenities would provide space for resting, seating, gathering, education, learning, observation of the natural environment and contemplation. Amenities would include the following:

1. **Seating and Pedestrian Resting Stations:** Regular spaces for stopping and resting, contemplation and observation would contribute to making the user experience enjoyable, comfortable, and relaxing. The Project would include casual seating (boulders, stumps etc.) to allow for a quick stop along a path, as well as benches or similar seating to allow for longer duration resting or observation.

2. **Observation Areas:** The design includes areas to connect people to nature. Observation areas would extend pedestrian areas into the natural habitat space without trampling or disturbing the habitat. Observation areas would utilize elevation changes to extend walkways and viewing stations above and over wetland and planted areas to allow users a space to observe, but not disturb the habitat.

3. **Signage:** Themed informational signage to provide consistent messaging and user guidance are important to the user experience and provides another way to connect people to nature. Signage with consistent icons, and symbology would begin at the site entrance and continue throughout all the Project areas.

4. **Waste Collection & Management:** Wildlife-proof waste collection stations would be placed at key locations (park entrance, gathering spaces, observation locations) for users to dispose of trash in bins and minimize trash ending up on the ground. Signage would also be included to remind users of the importance of keeping trash, plastic, and other non-natural materials out of the site to ensure the longevity and health of these spaces.

5. **Irrigation:** The Project would use treated dry-weather flow water and stormwater for planting irrigation. Supplemental irrigation would likely be required during the anticipated two-year plant and habitat establishment period.

6. **Habitat Features:** Natural plant foliage, flowers, fruit, and branches provide both food and shelter to many native vertebrate and invertebrate animals. Wildlife seeks a variety of spaces for habitat,

including spaces for nesting, burrowing, and general protective cover. Habitat structures features would primarily consist of small, protected spaces made of natural materials (rock) to create habitat spaces for small native mammals, reptiles, birds, and native bees. Habitat structures would be designed and located within the riparian, transitional, and upland zones to encourage and promote native fauna occupying the site.

7. **Paving Materials & Hardscape Design:** ADA compliant pedestrian access would be incorporated into the Project design. The majority of hard surfaces on the Project would be comprised of decomposed granite with a binder to prevent wind erosion. The below-grade vault structures will have hatch or maintenance hold lids to prevent access. The majority of the site will be landscaped with native California plants. The entire site is sloped into the wetlands meaning that the majority of rainwater that falls onsite will be collected in the wetlands where it will either be used for irrigation or allowed to flow into the LA river. A small amount of the rainwater will percolate into the soil.

8. **Drainage:** The site is sloped to collect all stormwater that falls onsite within the wetland. A small amount will soak into and percolate through the soils. The stormwater will be either used for irrigation or discharged to the LA river with improved water quality.

9. **Access Control Devices:** Bollards including removal bollards, and simple gates placed at pedestrian and maintenance pathway entrances would be installed to prevent unwanted access by vehicles into the site and protected habitat spaces.

10. **Graffiti Management:** Anti-graffiti coatings and similar deterrents may be applied to signage and other identified hardscape features.

11. **Lighting:** If determined to be needed as part of final Project design, exterior lighting (bollard lights and overhead photovoltaic lights) installed on the Project site would be of low intensity/glare, minimum height, and if overhead, shielded and hooded to direct light downward. The number and intensity of lighting fixtures would be limited to that necessary to promote safety and security for the public and maintenance personnel and adhere to applicable code requirements.

2.4.5 Construction Schedule

Table 2 summarizes the Project's construction duration by phase which would occur sequentially.

Table 2 Construction Phases and Approximate Durations

Construction Phase	Approximate Duration
Shallow Soil Removal and Site Preparation/RAW Implementation	1.5 months
Stormwater Drain Connection and Treatment System Installation	3 months
Wetland Habitat and Landscape Installation	6 months
Amenities	3 months

2.5 PROJECT OPERATION AND MAINTENANCE

Public access to the wetland demonstration Project site would generally be provided daily during daylight hours. Maintenance would consist of monthly treatment system inspection and removal of settled solids by vacuum truck as well as bi-monthly irrigation system inspection and landscape maintenance.

3.0 ENVIRONMENTAL SETTING, ANALYSIS, AND MITIGATION MEASURES

This Project is evaluated based upon its effect on twenty (20) major categories of environmental factors and mandatory findings of significance. The environmental factors checked below would potentially be significantly affected by the proposed Project, as indicated by the resource checklists in this IS/MND. However, as described in the following subsections, would be reduced to less than significant with mitigation incorporated.

☐	Aesthetics	☐	Greenhouse Gases	☐	Public Services
☐	Agricultural and Forestry Resources	☐	Hazards and Hazardous Materials	☐	Recreation
☐	Air Quality	☐	Hydrology and Water Quality	☐	Transportation
☒	Biological Resources	☐	Land Use and Planning	☒	Tribal Cultural Resources
☒	Cultural Resources	☐	Mineral Resources	☐	Utilities and Service Systems
☐	Energy Resources	☐	Noise	☐	Wildfire
☒	Geology and Soils	☐	Population and Housing	☒	Mandatory Findings of Significance

A detailed analysis of environmental impacts is presented for each resource area (listed above) utilizing the model Environmental Checklist Form found in Appendix G of the CEQA Guidelines Section 15063(f). Impacts to the environment for construction and operation of the project were assessed and described, and the level of significance of impacts measured against criteria established by regulation, accepted standards, or other definable criteria. The use of a MND is only permissible if all potentially significant environmental impacts assessed in the IS are rendered less than significant with incorporation of mitigation measures.

Each environmental resource area was reviewed by analyzing a series of questions (i.e., Initial Study Checklist) regarding level of impact posed by the Project. Substantiation is provided to justify each determination. One of four following conclusions was then provided as a determination of the analysis for each of the major environmental factors.

No Impact. A finding of no impact was made when it is clear from the analysis that the Project would not affect the environment.

Less than Significant Impact. A finding of a less than significant impact is made when it was clear from the analysis that the Project would cause no substantial adverse change in the environment and no mitigation is required.

Less than Significant Impact with Mitigation Incorporated. A finding of a less than significant impact with mitigation incorporated was made when it was clear from the analysis that the Project would cause no substantial adverse change in the environment when mitigation measures are successfully implemented pursuant with a Mitigation Monitoring and Reporting Program.

Potentially Significant Impact. A finding of a potentially significant impact would have been made when the analysis concluded that the Project could have a substantially adverse change in the environment for one or more of the environmental resources assessed in the checklist. In this case, typically preparation of an Environmental Impact Report (EIR) would be required.

3.1 AESTHETICS

AESTHETICS **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
Except as provided in Public Resources Code Section 20199:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

The Project is located within a concrete post-industrial landscape on the east bank of the Los Angeles River. The parcel was previously part of Taylor Yard, a service railway station and classification yard. The adjacent property to the east contains active railroad tracks, while the remaining surrounding properties contain further industrial or residential land uses.

3.1.2 Environmental Impact Analysis

a) Would the project have a substantial adverse effect on a scenic vista?

<u>Finding: No Impact</u>

Under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly-valued landscape for the benefit of the general public. There are no designated scenic vistas located within or in proximity to the Project that would be affected by implementation. Project features, such as trails, green spaces, and drainage improvements are low-lying and close to existing ground level. Nearby vistas of note, such as the Verdugo Summit, would not be impacted by the Project.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Finding: No Impact

The Project is not located within a state scenic highway, nor are any designated state scenic highways within the vicinity of the Project according to the Caltrans State Scenic Highway Program. No impact related to damaging scenic resources within a state scenic highway would occur from Project implementation.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality

Finding: No Impact

The Project proposes to enhance current conditions of the Project area by increasing recreational public green space and suitable habitat for native wetland plant species. The Project would improve the visual character of the site with green space compared to the industrial character of existing conditions. No impact would occur.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Finding: Less Than Significant Impact

If determined to be needed as part of final Project design, exterior night time lighting installed on the Project site would be of low intensity/glare, minimum height, shielded, and hooded to direct light downward. The Project does not include high reaching or intense sources of light that have the potential to create substantial light or glare that could substantially affect day or nighttime views in the area. The number and intensity of lighting fixtures would be limited to that necessary to promote Project site safety and security for the public and maintenance personnel and adhere to applicable code requirements. Additionally, highly polished materials or highly reflective metal material or glass that would reflect light and create glare are not proposed. Potential impacts would be less than significant.

3.2 AGRICULTURAL AND FORESTRY RESOURCES

AGRICULTURAL AND FORESTRY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

The Project site is located within a highly industrialized area that has historically been utilized as a rail-related facility.

3.2.2 Environmental Impact Analysis

a) Would the project Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Finding: No Impact

The Project site and the surrounding areas are highly developed. According to the 2018 State of California's Important Farmland Map, the Project is located in designated "urban and built up land". The Project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No impact would occur.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

<u>Finding: No Impact</u>

Williamson Act contracts restrict land development of contract lands, typically limiting land use to agriculture, recreation, and open space, unless otherwise stated. The Project is not located on land contracted under the Williamson Act and would not conflict with existing zoning for agricultural use. No impact would occur.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

<u>Finding: No Impact</u>

The Project site is not zoned as forest land or timberland, nor does it include any timberland resources. The Project would have no impact on forest land or timberland.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

<u>Finding: No Impact</u>

The Project site is not located within any forest land or land designated to the conservation of forest land. The Project would have no impact on forest land.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

<u>Finding: No Impact</u>

The Project site is entirely urbanized and not located within proximity to land zoned or utilized for farmland or forest land. The Project would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest uses. No impact would occur.

3.3 AIR QUALITY

AIR QUALITY Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

The Project is located within the South Coast Air Basin (SCAB). Regulatory oversight authority regarding air quality rests at the local, State, and federal levels with the South Coast Air Quality Management District (AQMD), California Air Resources Board (CARB), and U.S. Environmental Protection Agency (USEPA), respectively.

Ambient air quality standards, established by USEPA and CARB, specify allowable pollutant concentrations in ambient air over defined durations. The National Air Ambient Air Quality Standards (NAAQS) establish standards for six criteria pollutants: (O_3), carbon monoxide (CO), nitrogen oxide (NO_2), fine particular matter with an aerodynamic diameter of less than 2.5 microns ($PM_{2.5}$), airborne respirable particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}), sulfur dioxide (SO_2), and lead (Pb).

The USEPA and CARB determine the air quality attainment status of designated areas by comparing local ambient air quality measurements from state or local ambient air monitoring stations with the California Ambient Air Quality Standards (CAAQS) and NAAQS. These attainment designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable designation is treated as an attainment designation. Table 3 presents the federal and State attainment status for the SCAB. Attainment means that the ambient air quality meets the air quality standards and non-attainment means that the ambient air quality does not meet air quality standards.

Table 3 Attainment Status of South Coast Air Basin

Pollutant	State Designation	Federal Designation
Ozone (O_3)	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter (PM_{10})	Non-Attainment	Attainment
Particulate Matter ($PM_{2.5}$)	Non-Attainment	Non-Attainment (Serious)
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassifiable/ Attainment

Nitrogen Dioxide (NO_2)	Unclassified/Attainment	Unclassifiable/ Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead (Pb)	Attainment	Non-Attainment (Partial)
Hydrogen Sulfide (H_2S)	Attainment	*
Sulfates	Attainment	*
Source: SCAQMD, 2018 Notes: (*) = Not Identified/ No Status.		

As shown in Table 3, the Project site is located in an area designated nonattainment for both the federal and state standards for O_3 and $PM_{2.5}$, the state standard for PM_{10}, and the federal standard for lead. Because the SCAB currently exceeds several state and federal ambient air quality standards, the SCAQMD is required to implement strategies to reduce pollutant levels to recognized acceptable standards.

The 2022 Air Quality Management Plan (AQMP) was adopted by SCAQMD on December 2, 2022 to lead the SCAB into compliance with the NAAQS. The 2022 AQMP accounts for projected population growth, predicted future emissions in energy and transportation demand, and determined control strategies for the eventual achievement of NAAQS attainment designation. These control strategies involve a combination of regulatory and incentive approaches via partnerships at all levels of government. The 2022 AQMP includes policies that are consistent with the SCAQMD and specify review according to the recommendations of SCAQMD guidelines. Other policies are aimed at reducing transportation emissions, emissions from major stationary sources, and environmental justice communities.

3.3.2 Environmental Impact Analysis

The SCAQMD has adopted regional and localized significance thresholds (LSTs) to determine the significance of a project's potential air quality impacts. Separate thresholds of significance have been adopted for the construction and operation phases of projects. The LSTs were developed by the SCAQMD to assist lead agencies in analyzing localized air quality impacts from projects. LST look-up tables for one, two, and five acre proposed projects emitting CO, nitrogen oxides (NOx), $PM_{2.5}$ or PM_{10} were prepared for easy reference according to source receptor area. The LST methodology and associated mass rates are not applicable to mobile sources travelling over the roadways. It should be noted that SCAQMD does not require compliance with LSTs for new construction projects; LSTs are a voluntary approach to be implemented at the discretion of local agencies (SCAQMD, 2008a).

Table 4 below presents the regional significance thresholds and LSTs applicable to the proposed Project and used for purposes of this analysis.

Table 4 SCAQMD Air Quality Significance Thresholds (Mass Daily Thresholds)

Regional Thresholds (lbs/day)	VOC	NO_X	SO_X	CO	PM_{10}	$PM_{2.5}$	Lead (Pb)
Construction	75	100	150	550	150	55	3
Operation	55	55	150	550	150	55	3
Localized Thresholds (lbs/day)[1]	**VOC**	**NO_X**	**SO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**Lead (Pb)**
Construction	n/a	126	n/a	3,016	80	28	n/a
Operation	n/a	126	n/a	3,016	20	7	n/a

SOURCE: SCAQMD Air Quality Significance (Mass Daily) Thresholds, 2015
SCAQMD Mass Rate LST Lookup Tables, Appendix C, 2008a

Notes:

1. Localized significance thresholds are from the SCAQMD lookup tables for Source Area 1 assuming a two-acre project site and a distance to the nearest sensitive receptor of 200 meters.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Finding: Less Than Significant Impact

Projects in compliance with SCAQMD rules and regulations and with emissions below the SCAQMD mass emissions thresholds of significance presented in Table 4 would not be expected to conflict with or obstruct implementation of the applicable air quality plan. Proposed Project construction and operation emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1 (CalEEMod, 2016). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planning, and environmental professionals to quantify potential criteria air pollutant emissions associated with both construction and operations from a variety of land use projects.

The model quantifies direct emissions from construction and operations including vehicle use¸ off-road equipment, fugitive dust, off-gas from asphalt and landscaping maintenance. Default data (i.e., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. he model is an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California.

The Project would result in emissions of criteria air pollutants during construction primarily from off-road equipment and on-road vehicle exhaust and fugitive dust from grading/soil disturbing activities. Operation phase emissions of criteria air pollutants are limited to vehicle exhaust associated with public use and site maintenance and indirect emissions associated with water, electricity, and waste management requirements. The Project does not include a source of potential lead emissions.

Estimated Project construction and operation emissions are summarized below in Tables 5 and 6, respectively. Detailed emissions estimates and assumptions are provided in Appendix A (CalEEMod Output).

Table 5 Project Construction Emissions in Comparison to SCAQMD Significance Criteria

Component	VOC	NO_X	SO_X	CO	PM_{10}	$PM_{2.5}$
Peak Day Construction Emissions	2	23	<1	19	8	4
Regional Thresholds Construction	75	100	150	550	150	55
Localized Thresholds Construction	n/a	126	n/a	3,016	80	28
Exceeds Thresholds?	No	No	No	No	No	No

Table 6 Project Operation Emissions in Comparison to SCAQMD Significance Criteria

Component	VOC	NO_X	SO_X	CO	PM_{10}	$PM_{2.5}$
Peak Day Operation Emissions	<1	<1	<1	1	<1	<1
Regional Thresholds Operation	75	100	150	550	150	55
Localized Thresholds Operation	n/a	126	n/a	3,016	20	7
Exceeds Thresholds?	No	No	No	No	No	No

As shown in Tables 5 and 6, Project construction and operation emissions are below the applicable SCAQMD regional and localized mass emissions thresholds of significance. The Project would additionally be subject to compliance with SCAQMD Rule 403 which includes implementing required best available control measures to reduce fugitive dust emissions during proposed soil disturbing activities at the Project site during construction.

Considering Project mass emissions are below the thresholds of significance and the Project would be required to comply with SCAQMD Rule 403, the Project would not conflict with or obstruct implementation of the 2022 AQMP and impacts would be less than significant.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?

Finding: Less Than Significant Impact

Emissions below the SCAQMD regional mass emissions thresholds of significance presented in Table 4 would not be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard. As shown in Tables 5 and 6, Project construction and operation emissions are below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Considering Project mass emissions are below the thresholds of significance, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard and impacts would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Finding: Less Than Significant Impact

Sensitive receptors are defined as populations that are more susceptible to the effects of pollution than the population at large. The SCAQMD identifies the following as sensitive receptors: residences, schools, daycare centers, playgrounds, and medical facilities. The nearest sensitive receptors to the Project site are residential land uses more than 100 meters to the west. Projects that are below the SCAQMD LSTs presented in Table 4 would not be expected to expose sensitive receptors to substantial pollutant concentrations.

As shown in Tables 5 and 6, Project construction and operation emissions are below the applicable SCAQMD localized mass emissions thresholds of significance established by SCAQMD to screen projects potential to expose sensitive receptors to substantial pollutant concentrations. Considering localized Project mass emissions are below the thresholds of significance, the Project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Finding: Less Than Significant Impact

The Project design includes two in-situ treatment systems to decrease the amount of solids and odor-causing materials entering the wetlands. These would be collected in below grade vaults where they can be removed by maintenance personnel. The vaults would be secured with locking hatches to prevent the escape of fugitive odor. Potential odor impacts would therefore be less than significant.

3.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or regulated by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 Environmental Setting

3.4.1.1 Existing Site Conditions

The proposed Project is located in the City of Los Angeles, California, between the communities of Glassell Park and Elysian Valley, approximately 0.5 miles northeast of the I-5 and Glendale Fwy intersection. Specifically, the Project is located at the northern end of the Bowtie Parcel, a partial concrete, post-industrial landscape on the east bank of the Los Angeles River.

The Project is surrounded by industrial and residential land uses in the north and east, with a few concentrated commercial areas in the vicinity; railroad tracks bordering the east of the Parcel are active for Amtrak, Metrolink and freight trains. The proposed Project is located approximately 335 ft to 380 ft above sea level.

3.4.1.2 Baseline Data Collection Methodology

Baseline data was collected within accessible portions of the proposed Project area and within a surrounding 300-foot buffer zone. This approximate 24-acre area is defined as the Biological Study Area (BSA). Below is a summary of the baseline data collection methodology; additional details are presented in the Biological Resources Technical Report prepared for the proposed project (refer to Appendix B).

Literature Review

A literature search focused on the BSA was conducted prior to the field survey. The BSA is located within the USGS Venice, California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted in the BSA and a surrounding 10-mile buffer area to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW 2022a). The database included portions of the following quadrangles surrounding the BSA:

- Burbank
- Hollywood
- Whittier
- Pasadena
- Inglewood
- South Gate
- Mt Wilson
- El Monte

Stantec also obtained a list of federally listed species and species that are proposed or are candidates for federal listing with the potential to occur in the vicinity of the Project area, using the Information for Planning and Consultation tool on June 22, 2022. Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and Federally Listed Endangered and Threatened Animals of California (California Department of Fish and Wildlife, 2022b)
- Special Animals List (California Department of Fish and Wildlife, 2022c)
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (California Department of Fish and Wildlife, 2022d)
- California Sensitive Natural Communities (California Department of Fish and Wildlife, 2021)
- Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society, 2022)
- Consortium of California Herbaria (Consortium of California Herbaria, 2022)

Site Reconnaissance and Wildlife Surveys

Stantec conducted a habitat assessment and reconnaissance-level surveys to document the environmental conditions present within the BSA. The primary goal of these initial surveys was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and determine the potential need for additional focused surveys for special-status resources. Biologists recorded all incidental plant and wildlife observations

The survey was conducted on May 26, 2022, during a season and time of day when resident and migratory birds would be expected to be present and exhibiting normal activity, small mammals would be active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. The survey was conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 65-95 degrees Fahrenheit).

The BSA was investigated on foot (where accessible) by experienced field biologists walking throughout publicly accessible areas at an average pace of approximately one mile per hour while visually scanning for wildlife and their sign and listening to wildlife songs and calls. Biologists paused as necessary to listen for wildlife or to identify, record, or enumerate any observed species. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.). Species identifications conform to the most up-to-date field guides and technical literature

Vegetation Mapping

Vegetation descriptions and nomenclature are based on the second edition of *A Manual of California Vegetation* (MCVII) (Sawyer et al. 2009), where applicable, and have been defined to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the ESRI Collector for ArcGIS app on an Apple iPad coupled with a Bad Elf GNSS Surveyor sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ESRI ArcGIS (version 10.7) with aerial photograph base maps with an accuracy of 1 foot. Most boundaries shown on the maps are accurate within approximately 3 feet; however, boundaries between some vegetation types are less precise due to difficulties in interpreting aerial imagery and accessing stands of vegetation.

Aquatic Resources

A formal jurisdictional waters delineation per US Army Corps of Engineers (USACE) guidelines was not conducted as part of this assessment. The BSA was evaluated for potential waters subject to jurisdiction pursuant to Section 1600 et seq. of the California Fish and Game Code (FGC), California Regional Water Quality Control Boards (RWQCB) regulations (Clean Water Act [CWA] Section 401 and Porter-Cologne Water Quality Control Act Waste Discharge Requirement), and United States Army Corps of Engineers (USACE) CWA Section 404 regulations. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA, 2020), local and state hydric soils lists, and the National Wetlands Inventory (United States Fish and Wildlife Service, 2020a) to evaluate the potential active channels and wetland features that occur within the BSA. During the field assessment, these resulting hydrologic features were reconciled and noted and later mapped via aerial imagery. Field data was further manipulated in the office using GIS.

Vegetation Communities and Observed Plant Species

As defined in MCVII, a vegetation alliance is “a category of vegetation classification which describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors” (Sawyer et al. 2009).

Within the BSA, Stantec biologists mapped three plant communities defined by Sawyer et al. (2009), and three land cover types. These are summarized in Table 7, and depicted in Figure 3 included in Appendix B.

Table 7 Vegetation Communities and Land Cover Types Occurring within the Biological Study Area

Vegetation Community/Land Cover Type	Habitat Type	Acreage within BSA
Fountain grass swards	Upland	2.88
Gooding’s willow – red willow riparian woodland and forest	Riverine	2.67
Ornamental non-native	Upland	0.77
California buckwheat scrub (Planted)	Upland	0.42
Disturbed/Developed	Upland	16.85
Open water	Riverine	0.66
	Total	24.25

Vegetation Communities

Pennisetum setaceum - *Pennisetum ciliare* Herbaceous Semi-Natural Alliance; Fountain grass swards

Vegetation characteristic of the *Pennisetum setaceum* – *Pennisetum ciliare* herbaceous seminatural alliance was mapped adjacent to the concrete river embankment and adjacent to the railroad tracks. The applicable membership rule for this alliance is *Pennisetum* spp. > 50% relative cover in herbaceous layer and combined with other non-native plants > 90% relative cover. In the BSA, this alliance is dominated by crimson fountaingrass (*Pennisetum setaceum*). Other species that occur occasionally are Mexican fan palm (*Washingtonia robusta*) and coyote brush (*Baccharis pilularis*).

Salix gooddingii - *Salix laevigata* Forest & Woodland Alliance; Gooding’s willow -red willow riparian woodland and forest Aquatic Resources

Vegetation characteristic of the *Salix gooddingii* – *Salix laevigata* forest and woodland alliance was mapped within the LA River in the southern portion of the BSA. The applicable membership rule for this alliance is *Salix gooddingii* and/or *Salix laevigata* > 50% relative cover in the tree canopy. This alliance is considered a state-sensitive vegetation community and has a State Rarity Rank of S3 (Sawyer et al. 2009). In the BSA, this alliance is dominated by red willow (*Salix laevigata*) in the tree canopy, which is an open canopy. Shrub layer is sparse to absent. In the understory, there is a variety of wetland and riparian plants, including cattail (*Typhus* sp.), bulrushes (*Schoenoplectus* sp.), and spotted ladysthumb (*Persicaria maculosa*).

Eriogonum fasciculatum Shrubland Alliance; California buckwheat scrub (Planted)

Vegetation characteristic of the *Eriogonum fasiculatum* shrubland alliance was mapped adjacent to the concrete canal embankment just south of the Project site within the BSA. The applicable membership rule for this alliance is California buckwheat (*Eriogonum fasciculatum*) > 50% relative cover in the shrub canopy; other shrubs, if present, < 50% relative cover. In the BSA, California buckwheat dominates the shrub canopy. Other shrubs include California sage (*Artemisia californica*), bush sunflower (*Encelia californica*), and white sage (*Salvia apiana*). Shrubs are less than < 2 m in height and shrub canopy is continuous. The herbaceous layer is variable and may be grassy. Non-native Crimson fountaingrass and Mexican fan palms also occur within this area. Within the BSA, this alliance transitions into the fountain grass swards herbaceous semi-natural alliance. Due to presence, height, maturity and density of native plant species observed only in this area, where they were intermixed with the surrounding non-native plant species, this alliance appears to have been planted or seeded within approximately the last five years..

Land Cover Types

Ornamental Non-Native

This land cover type was mapped on the edges and throughout central portions of the BSA. It consists of various ornamental and non-native plants such as climbing fig (*Ficus pumila*), Brazilian peppertree (*Schinus terebinthifolius*), common fig (*Ficus carica*), retama (*Parkinsonia aculeata*), and acacias (*Acacia* sp.) commonly occurring in the tree layer, and star thistle (*Centaurea solstitialis*) and crimson fountaingrass commonly occurring in the herbaceous layer.

Disturbed/Developed

This landcover type was mapped where there was compacted soil, gravel, and concrete cover, including within the Project area and the concrete embankment of the LA River.

Open Water

This landcover type was mapped for portions of open water areas of the LA River.

Plant Species Observed

Plants observed during the May 26th, 2022, reconnaissance-level surveys were recorded; however, a focused, floristic-level survey was not conducted. The reconnaissance-level surveys resulted in the documentation of 38 species of native and non-native plants within the BSA, a detailed list of which is provided in Table 8.

Table 8 Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
ANACARDIACEAE	**CASHEW FAMILY**
Schinus terebinthifolius	Brazilian pepper tree*
APIACEAE	**CARROT FAMILY**
Apium graveolens	garden celery*
Conium maculatum	poison hemlock*
Artemisia californica	California sagebrush
Baccharis pilularis	coyote brush
Baccharis salicifolia	mulefat
Centaurea solstitialis	star thistle*
Encelia californica	bush sunflower
Erigeron canadensis	horseweed
Heterotheca grandiflora	telegraph weed
Lactuca serriola	prickly lettuce*
Malacothrix saxatilis	cliff aster
Pseudognaphalium californicum	California cudweed
Salvia apiana	white sage
Sonchus oleraceus	common sow thistle*
Xanthium strumarium	rough cockleburr
BRASSICACEAE	**CABBAGE FAMILY**
Brassica nigra	black mustard*
Hirschfeldia incana	short podded mustard*
EUPHORBIACEAE	**SPURGE FAMILY**
Ricinus communis	castor bean*
FABACEAE	**PEA FAMILY**
Acmispon glaber	deerweed
Melilotus officinalis	yellow sweetclover*
Parkinsonia aculeata	retama*
Vachellia schaffneri	Schaffner’s acacia*
MORACEAE	**FIG FAMILY**
Ficus pumila	climbing fig*
Ficus carica	common fig*

ONAGRACEAE	**PRIMROSE FAMILY**
Ludwigia peploides	floating water primrose*
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum fasciculatum	California buckwheat
Persicaria maculosa	spotted ladysthumb*
SALICACEAE	**WILLOW FAMILY**
Salix lasiolepis	red willow
SOLANACEAE	**POTATO FAMILY**
Nicotiana glauca	tree tobacco*
ARECACEAE	**PALM FAMILY**
Washingtonia robusta	Mexican fan palm*
CYPERACEAE	**SEDGE FAMILY**
Cyperus eragrostis	tall flat sedge
Schoenoplectus californicus	California bulrush
Schoenoplectus americanus	American three-square bulrush
POACEAE	**GRASS FAMILY**
Arundo donax	giant reed*
Pennisetum setaceum	crimson fountaingrass*
Polypogon monspeliensis	rabbitsfoot grass*
TYPHACEAE	**CATTAIL FAMILY**
Typha sp.	cattail sp.

* Non-native Species

3.4.1.3 Jurisdictional Waters and Wetlands

There are no potential jurisdictional features within the proposed Project area so there would be no impacts to jurisdictional features. Adjacent (southwest) to the proposed Project area and within the BSA is the Los Angeles River (Figure 4). The proposed Project area is located in the upland area adjacent to the concrete banks that line the LA River channel. The LA River is considered to be WOTUS and under the jurisdiction of the USACE up to the OHWM, and waters of the state under jurisdiction of the RWQCB. The river channel up to the top of the concrete banks and within any adjacent riparian zone vegetation is considered to be under the jurisdiction of the CDFW.

3.4.1.4 Common Wildlife

This section describes the common wildlife observed during the reconnaissance survey and those wildlife species expected to occur within the BSA based on habitat characteristics, previous studies, and species known to occur in the region.

Terrestrial Invertebrates

As in all ecological systems, invertebrates inhabiting the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the BSA provide a suite of microhabitat conditions favorable for a wide variety of terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the BSA for this Project; however, a variety of common insects were observed during the reconnaissance survey, including the non-native honeybee (*Apis mellifera*), cabbage butterfly (*Pieris rapae*), and Argentine ant (*Linepithema humile*), and the native flame skimmer dragonfly (*Libellula saturata*), cloudless sulphur butterfly (*Phoebis sennae*), and water strider (Gerridae family). Focused insect surveys were performed within the LA River and in other upland areas near the Bowtie Parcel for TNC in 2014 and 2015. These insect surveys found 102 different families of insects (TNC 2016).

Fish

Fish observed in the L.A. River during the survey were all non-native and included common carp (*Cyprinus carpio*) and an unknown bass species (Centrarchidae family) that could not be identified because it was being consumed by a great blue heron at the time of observation. Although not observed during the survey, other non-native fish species observed during previous surveys and known to occur in the Glendale Narrows portion of the LA River include fathead minnow (*Pimephales promelas*), black bullhead (*Ameriurus melas*), amazon sailfin catfish (*Pteroplichthys pardalis*), mosquitofish (*Gambusia affinis*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*) and tilapia (*Oreochromis* sp.) (TNC 2016). No native fish species historically occupying the Glendale Narrows portion of the LA River remain in the river, based on results from recently performed fish surveys (TNC 2016).

Amphibians

Amphibians typically require a source of standing or flowing water to lay their egg masses and to complete their life cycle. However, some terrestrial amphibian species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These amphibian species are highly cryptic and often difficult to detect.

The only amphibian observed during the reconnaissance survey was the western toad (*Anaxyrus boreas*); however, the survey was performed during the day when frogs are typically inactive and are not calling. Therefore, it is not unexpected that other amphibian species were not observed during the reconnaissance survey.

Other amphibians known to occur within the LA River watershed include Pacific chorus frog (*Pseudacris regilla*), California tree frog (*Pseudacris cadaverina*) and non-native American bullfrog (*Lithobates catesbeianus*). Focused surveys for amphibians performed in 2015 for TNC's LA River Study recorded western toad, as well as Pacific chorus frog and American bullfrog in the river near the BSA (TNC 2016).

Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their behavioral characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during most surveys. Furthermore, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most species take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases, they are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

The only reptile observed during the site reconnaissance was the western fence lizard (*Sceloporus occidentalis*); however, the reconnaissance survey was within a relatively small area, of short duration, and was not focused on reptiles. Other species of reptile known to occur within the LA watershed include the native western pond turtle (*Actinemys marmorata*), southern alligator lizard (*Elgaria multicarinata*), side-blotched lizard (*Uta stansburiana*), western whiptail (*Aspidoscelis tigris*), striped racer (*Masticophis lateralis*), gopher snake (*Pituophis catenifer*), california king snake (*Lampropeltis californiae*), and western rattlesnake (*Crotalus oreganus*) and the non-native red-eared slider (*Trachemys scripta elegans*).

Focused surveys for reptiles performed in 2015 for TNC’s LA River Study (TNC 2016), which included 12 daytime surveys and one night survey, recorded western fence lizards, as well as side-blotched lizards and southern alligator lizards within the Bowtie Parcel, and red-eared slider turtles in the LA River corridor. Side-blotched lizards were not found in other areas outside of the Bowtie Parcel during the reptile surveys.

Birds

Birds were identified by sight and were observed throughout the BSA. Birds observed were the native mallard (*Anas platyrhynchos*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), black-crowned night heron (*Nycticorax nycticorax*), California gull (*Larus californicus*), osprey (*Pandion haliaetus*), and black-necked stilt (*Himantopus mexicanus)*. Upland bird species observed included killdeer (*Charadrius vocieferus*), hermit thrush (*Catharus guttatus*), Cooper’s hawk (*Accipiter cooperii*), Allen’s hummingbird (*Selasphorus sasin*), Anna’s hummingbird (*Calypte anna*), , American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), common yellowthroat (*Geothlypis trichas*), house finch (*Haemorhous mexicanus*), barn swallow (*Hirundo rustica*), , song sparrow (*Mesospiza melodia*), northern mockingbird (*Mimus polyglottus*), , cliff swallow (*Petrochelidon pyrrhonota*), black phoebe (*Sayornis nigricans*), yellow-rumped warbler (*Setophaga coronata*), yellow warbler (*Setophaga petechia*), lesser goldfinch (*Spinus psaltria*), northern rough-winged swallow (*Stelgidopteryx serripennis*) and mourning dove (*Zenaida macroura*), and the non-native rock pigeon (*Columba livia*), scaley-breasted munia (*Lonchura punctulata*), house sparrow (*Passer domesticus*), and European starling (*Sturnus vulgaris*), .

Focused bird surveys for TNC's LA River Study were performed for several months in 2015 at Marsh Park, which is across the river south of the Bowtie Parcel. Most of the same common bird species were observed during TNC surveys compared to the Stantec reconnaissance surveys. Other bird species recorded during TNC's LA River Study included hooded oriole (*Oriolus xanthornus*), ruby-crowned kinglet (*Corthylio calendula*), orange-crowned warbler (*Leiothlypis celata*), black-chinned hummingbird (*Archilochus alexandri*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), and brown-headed cowbird (*Molothrus ater*) (TNC 2016). Because many of the bird species found in the LA River corridor are migratory and the LA River is within the Pacific Flyway avian migratory corridor, bird species diversity near the Bowtie Parcel is remarkably high, and the bird species present in the BSA will change throughout the year.

Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., friable soils).

Terrestrial mammal species observed during the surveys included ground squirrel (*Otospermophilus beecheyi*) and cottontail rabbit (*Sylvilagus* sp.). Other mammals not observed during the reconnaissance survey that are tolerant of urban spaces and known to occur in the LA region include raccoon (*Procyon lotor*), opossum (*Deidelphis virginiana*), striped skunk (*Mephitis mephitis*), and coyotes (*Canis latrans*). Most of these species were observed or photographed (using trail cameras) near the Bowtie Parcel during TNC LA River Study (TNC 2016). While bats were not detected within focused surveys in the BSA, species such as Yuma myotis (*Myotis yumanensis*, Brazilian free-tailed bat (*Tadarida brasiliensis*), California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*), and big brown bat (*Eptesicus fuscus*) are known to occur within the LA River corridor.

All wildlife species observed within the BSA are summarized in Table 9.

Table 9 Wildlife Species Observed in the BSA

Scientific Name	Common Name	Native Status
INVERTEBRATES		
Apis mellifera	honey bee	non-native
Gerridae family	water strider	native
Libellula saturata	flame skimmer dragonfly	native
Phoebis sennae	cloudless sulphur butterfly	native
Pieris rapae	cabbage white butterfly	non-native
FISH		
Cyprinus carpio	common carp	non-native
Centrarchidae family	unknown bass	non-native

AMPHIBIANS		
Anaxyrus boreas	western toad	native
REPTILES		
Sceleporous occidentalis	western fence lizard	native
BIRDS		
Accipiter cooperii	Cooper's hawk	native
Anas platyrhynchos	mallard duck	native
Ardea alba	great egret	native
Ardea herodias	great blue heron	native
Branta canadensis	Canada goose	native
Calypte anna	Anna's hummingbird	native
Catharus guttatus	hermit thrush	native
Charadrius vociferus	killdeer	native
Columba livia	rock pigeon	non-native
Corvus brachyrhynchos	American crow	native
Corvus corax	common raven	native
Egretta thula	snowy egret	native
Geothlypis trichas	common yellowthroat	native
Haemorhous mexicanus	house finch	native
Himantopus mexicanus	black-necked stilt	native
Hirundo rustica	barn swallow	native
Larus californicus	California gull	native
Lonchura punctulata	scaley-breasted munia	non-native
Mesospiza melodia	song sparrow	native
Mimus polyglottus	northern mockingbird	native
Nycticorax	black-crowned night heron	native
Pandion haliaetus	osprey	native
Passer domesticus	house sparrow	non-native
Petrochelidon pyrrhonota	cliff swallow	native
Sayornis nigricans	black phoebe	native
Selasphorus sasin	Allen's hummingbird	native
Setophaga coronata	yellow-rumped warbler	native
Setophaga petechia	yellow warbler	native
Spinus psaltria	lesser goldfinch	native
Sturnus vulgaris	European starling	non-native

Stelgidopteryx serripennis	northern rough-winged swallow	native
Zenaida macroura	mourning dove	native
MAMMALS		
Otospermophilus beecheyi	ground squirrel	native
Sylvilagus sp.	cottontail rabbit	native

3.4.1.5 Special-Status Natural Communities and Critical Habitat

Special-Status Natural Communities

Special-status natural communities are defined by CDFW (2020) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA.

One vegetation community identified within the BSA is listed as sensitive: Gooding's willow - red willow riparian woodland and forest. This community has a state rank of S3/Vulnerable; vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state. No sensitive communities occur within the proposed Project area.

CRITICAL HABITAT

Critical habitat is defined by the USFWS (United States Fish and Wildlife Service, 2020b) as, "…a term defined and used in the Endangered Species Act. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery." There is no designated Critical Habitat within the BSA.

Special-Status Wildlife

Special-status taxa include those listed as threatened or endangered under the FESA or California Endangered Species Act, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare that have the potential to occur within the BSA.

The CNDDB was queried for occurrences of special-status wildlife taxa within a 10-mile radius of the BSA Table 10 summarizes the special-status wildlife taxa known to occur regionally and their potential for occurrence in the BSA. Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- **Present**: Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High**: Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate**: Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.
- **Low**: Limited habitat for the taxa occurs within the BSA and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur**: The environmental conditions associated with taxa presence do not occur within the BSA.

While many of the species listed in Table 10 have potential to occur within the BSA, they are not expected to occur within the Project area due to the lack of suitable habitat.

Table 10 Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
INVERTEBRATES					
Bombus crotchii	Crotch's bumble bee	**SC, S1S2**	Coastal California east to the sierra-cascade crest and south into Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	The nearest recorded occurrence of this species is less than a mile away from the BSA from 2020, and there are multiple occurrences within 5 miles within the past 20 years. California buckwheat (*Eriognum fasciculatum*), a food plant for the species occurs within the BSA, but there is none within the Project area.	**High**
Danaus plexippus	monarch butterfly	**CAN**	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Food plant genus *Asclepias*.	No suitable habitat for food or roosting occurs within the BSA.	**Not Likely to Occur**
Eugnosta busckana	Busck's gallmoth	**SH**	Coastal scrub dune habitat.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence of this species is 7.4 miles from the BSA from 1929.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Glyptostoma gabrielense	San Gabriel chestnut snail	**S2**	Microhabitats with sufficient moisture in rocky hills and mountains at relatively low elevations. Historic range includes the San Gabriel Mountain Range within the city of Pasadena, Millard Canyon, Mt. Lowe and the Dominguez Hills.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence of this species is 1 mile from the BSA from 1944. There are three occurrences from 2020 between 9 and 10 miles from the BSA.	**Not Likely to Occur**
Gonidea angulata	western ridged mussel	**S1S2**	Prefers constant water flow and stable stream bottoms such as sand and gravel bars in areas of slow-loving water. Streams with wide floodplains and ample sand and gravel.	The portion of the BSA that contains the LA River has suitable habitat for this species, and the nearest recorded occurrence was within the BSA in 1993. However, the species was not observed on site during the field survey. It is not expected to occur within the Project area due to lack of suitable habitat.	**High**
AMPHIBIANS					
Rana muscosa	southern mountain yellow-legged frog	**FE, SE, WL, S1**	Occur in the Sierra Nevada range of California. Inhabit lakes, ponds, marshes, meadows, and streams at elevations typically ranging from 1,370 to 3,660 meters.	The elevation of the BSA is lower than the elevation where this species typically occurs. The nearest occurrence is 8 miles from the BSA from 1936.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Spea hammondii	western spadefoot toad	**SSC, S3**	Occurs in the Central Valley and adjacent foothills and the non-desert areas of Southern California and Baja California. Grassland habitats and valley-foothill hardwood woodlands. Vernal pools and other temporary rain pools, cattle tanks, and occasionally pools of intermittent streams are essential for breeding and egg-laying. Burrows in loose soils during dry season.	Marginally suitable habitat occurs within the LA River portion of the BSA. Two occurrences have been recorded within five miles, but both are from 1921, over 90 years ago.	**Low**
Taricha torosa	Coast Range newt	**SSC, S4**	Species of Special Concern status extends only to populations found from Monterey County to San Diego, excluding a population in the southern Sierra Nevada mountains. Southern populations tend to use permanent streams for breeding, and in southern California are also limited by the availability of rocky canyons with clear, cold water (Thomson, 2016).	Although a portion of the LA River is included in the BSA, the type of river and water quality is not suitable for this species. So, no suitable habitat occurs within the BSA. The closest occurrence is 8 miles north northeast of the BSA from 2003.	**Not Likely to Occur**
REPTILES					

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Anniella stebbinsi	Southern California legless lizard	**SSC, S3**	Generally south of the transverse range, extending to northwestern Baja California; occurs in sandy or loose loamy soils under sparse vegetation; disjunct populations in the Tehachapi and Piute mountains in Kern County; variety of habitats; generally in moist, loose soil; they prefer soils with a high moisture content.	Marginally suitable habitat occurs within the LA River within the BSA. Five species occurrences occur within five miles within the past ten years. This species was not observed during the field survey.	**Moderate**
Arizona elegans occidentalis	California glossy snake	**SSC, S2**	Occurs in grasslands, fields, coastal sage scrub, and chaparral from the central San Joaquin Valley south to the Tehachapi Mountains and along the base of the Coast Range mountains farther south to San Quintin, Baja California. It prefers loose soil that allows for burrowing.	Suitable habitat doesn’t occur within the BSA. No occurrences within a 5-mile radius of the BSA.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Emys marmorata	western pond turtle	**SSC, S3**	Ranges widely along the west coast of the U.S. down into the Baja California peninsula. Variety of aquatic water bodies; Needs upland area for nesting habitat; Soils need to be loose enough to allow for nest excavation.	Marginally suitable habitat occurs within the BSA. However, no occurrences within 5 miles or within 20 years have been recorded.	**Low**
Phrynosoma blainvillii	coast horned lizard	**SSC, S3S4**	Primarily in sandy soil in open areas, especially sandy washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	Suitable habitat does not occur within the BSA. Only one occurrence occurs within 5 miles of the BSA and that is from 1974.	**Not Likely to Occur**
BIRDS					
Accipter cooperii	Cooper's hawk	**WL, S4**	Uses a variety of habitats, including mixed and deciduous forests, open woodlands, riparian woodlands, open pinyon woodlands, and forests. Can be found in city habitats and suburban areas.	Suitable foraging habitat occurs in the LA River corridor, but habitat is disturbed. This species was observed in the LA River corridor during the survey.	**Moderate for Nesting/High for Foraging**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Accipiter striatus	sharp-shinned hawk	**WL, S4**	Forages in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines, especially where migrating birds are found. Typically nests in dense, small-tree stands of conifers, which are cool, moist, well shaded, with little ground-cover, and near water.	Marginally suitable foraging habitat occurs within the LA River corridor. There is one occurrence recorded on eBird approximately in Lewis McAdams Riverfront Park, approximately 0.6 miles southwest of the BSA from 2022 and one occurrence at the Frogtown area approximately 1 mile downstream of the BSA from 2022.	**Not Likely to Occur for Nesting/Moderate for Foraging**
Agelaius phoeniceus	Red-winged blackbird	**SSC**	Breeds in marshes, brushy swamps, hayfields; forages also in cultivated land and along edges of water. Breeds most commonly in freshwater marsh, but also in wooded or brushy swamps, rank weedy fields, hayfields, upper edges of salt marsh.	Suitable habitat occurs in river corridor, but habitat is disturbed within the Los Angeles River corridor. There are numerous occurrences near the BSA on eBird, including at the Lewis MacAdams Riverfront Park across the Los Angeles River from the BSA in 2022, and the Frogtown area approximately 1 mile downstream of the BSA in January 2023.	Moderate for Nesting/Moderate for Foraging

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	**WL, S3**	Breeding habitat includes vegetated scrubland on hillsides and canyons, coastal sage scrub, coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats.	Marginally suitable breeding and foraging habitat occurs within the BSA. There is one occurrence 5 miles from the BSA from 2014.	**Moderate for Nesting/Moderate for Foraging**
Athene cunicularia	burrowing owl	**SSC, BCC, S3**	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Owls are found in microhabitats highly altered by humans, including flood risk management and irrigation basins, dikes, banks, abandoned fields surrounded by agriculture, and road cuts and margins. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Marginally suitable breeding and foraging habitat occurs within the BSA. There are occurrences recorded from within the BSA, and five miles from the BSA, but both are from over 90 years ago.	**Low for Nesting/Low for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Ardea alba	great egret	**SA, S4**	Fresh and saline emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures. Nests in large trees and roosts in trees.	Suitable habitat occurs within the LA River corridor. There are no CNDDB occurrences recorded from within 10 miles of the BSA. This species was observed in the LA River corridor during the survey.	**Moderate for Nesting/High for Foraging**
Ardea herodias	great blue heron	**SA, S4**	Shallow estuaries, fresh and saline emergent wetlands, riverine and rocky marine shores, croplands, pastures, and in mountains above foothills. Usually nests in colonies.	Suitable habitat occurs within the LA River corridor. There are no CNDDB occurrences recorded from within 10 miles of the BSA. This species was observed in the LA River corridor during the survey.	**Moderate for Nesting/High for Foraging**
Buteo swainsoni	Swainson's hawk	**ST, S3**	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No suitable habitat for nesting or foraging occurs within the BSA.	**Not Likely to Occur for Nesting /Not Likely to Occur for Foraging**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Calypte costae	Costa's hummingbird	**SA, BCC, S4**	Primary habitats are desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis.	Marginally suitable habitat occurs within the BSA. There are occurrences recorded on eBird at Lewis MacAdams Riverfront Park approximately 0.6 miles west of the BSA in 2022 and in the Frogtown area approximately 1 mile south of the BSA in 2016.	**Low for Nesting/Moderate for Foraging**
Chaetura vauxi	Vaux's swift	**SSC, BCC, S2S3**	Open sky over forest, lakes, and rivers. Often feeds low over water, especially in morning and evening or during unsettled weather. Nests in coniferous and mixed forest.	Marginally suitable nesting habitat and foraging habitat occurs within the BSA. There are occurrences recorded on eBird at Rio do Los Angeles State Park approximately 0.6 miles south of the BSA and at the Lewis MacAdams Riverfront Park approximately 0.6 miles west of the BSA in 2022.	**Low for Nesting/Low for Foraging**
Coturnicops noveboracensis	yellow rail	**SSC, BCC, S1S2**	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	No suitable habitat occurs within the BSA for nesting or foraging.	**Not Likely to Occur for Nesting/Not Likely to Occur for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Elanus leucurus	white-tailed kite	**FP, S3S4**	Open groves, river valleys, marshes, and grasslands. Occurs in lowlands of California west of the Sierra Nevada range and the southeast deserts. It is found in the Central Valley and along the entire California coast.	Marginally suitable nesting habitat and foraging habitat occurs within the BSA. There is one occurrence recorded on eBird at the Frogtown area approximately 1 mile downstream of the BSA in 1999.	**Low for Nesting/Low for Foraging**
Empidonax traillii extimus	southwestern willow flycatcher	**FE, SE, S1**	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S.	Marginally suitable nesting habitat occurs and suitable foraging habitat occurs within the BSA. There are two occurrences from within the site and within five miles of the site, but they are from over 90 years ago.	**Low for Nesting/Moderate for Foraging**
Egretta thula	snowy egret	**SA, S4**	Coastal estuaries, fresh and saline emergent wetlands, ponds, slow-moving rivers, irrigation ditches, and wet fields. Dense marshes are required for nesting. Also nests in low trees.	Suitable habitat occurs within the LA River corridor. There are no CNDDB occurrences recorded from within 10 miles of the BSA. This species was observed in the LA River corridor during the survey.	**Low for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Falco peregrinus anatum	American peregrine falcon	**FP, S3S4**	Coastal sage scrub communities that are associated with coastal dunes, perennial grasslands, annual grasslands, croplands, pastures, coast Douglas-fir-hardwood forests, coastal oak woodlands, montane hardwood woodlands, closed-cone pine-cypress woodlands, chamise-red shank chaparral, and mixed-chaparral communities.	Marginally suitable nesting and foraging habitat occurs within the BSA. There is one recorded occurrence within 1 mile of the BSA from 2005.	**Moderate/Moderate**
Larus californicus	California gull	**WL, BCC, S4**	A fairly common nester at alkali and freshwater lacustrine habitats east of the Sierra Nevada and Cascades, and an abundant visitor to coastal and interior lowlands in nonbreeding season. Preferred habitats are sandy beaches, mudflats, rocky intertidal, and pelagic areas of marine and estuarine habitats, as well as fresh and saline emergent wetlands, lacustrine, riverine, and cropland habitats, landfill dumps, and open lawns in cities.	Suitable foraging habitat occurs within the LA river corridor. An occurrence was recorded in eBird from 2022 from the Bowtie Parcel and from 2022 in the Rio de Los Angeles State Park, approximately 0.6 miles from the BSA.	**Not Likely to Occur for Nesting/Moderate for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Nannopterum auritum	double-crested cormorant	**WL, S4**	Inland lakes, in fresh, salt and estuarine waters. Feeds mainly on fish, but also on crustaceans and amphibians.	Suitable foraging habitat occurs within the LA river corridor. There are no CNDDB occurrences within 10 miles of the BSA. An occurrence was recorded in eBird from 2022, from the Bowtie Parcel hotspot (specific location not available).	**Not Likely to Occur for Nesting/Moderate for Foraging**
Nycticorax nycticorax	black-crowned night heron	**SA, S4**	Lowlands and foothills throughout most of California, including the Salton Sea and Colorado River areas. Nests in large colonies. Feeds along the margins of lacustrine, large riverine, and fresh and saline emergent habitats. Nests in dense-foliaged trees; dense, fresh or brackish emergent wetlands; or dense shrubbery or vine tangles; usually near aquatic or emergent feeding areas.	Suitable habitat occurs within the LA River corridor. This species was observed within the river corridor adjacent to the Bowtie Parcel during surveys.	**Not Likely to Occur for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Pandion heliaetus	osprey	**WL, S4**	Forages in shallow inland waters along rivers, streams, marshes and reservoirs. Wintering and nonbreeding birds also feed ins shallow coastal marine habitats. Suitable nesting habitat includes power poles and towers, as well as large living and dead trees.	Suitable foraging habitat occurs within the Los Angeles River corridor. This species was observed within the river corridor adjacent to the Bowtie Parcel during surveys.	**Moderate for Nesting/High for Foraging**
Pelecanus erythrorhynchos	American white pelican	**SSC, BCC, S1S2**	Forage in shallow inland waters, such as open areas in marshes and along lake or river edges; wintering and nonbreeding birds also feed in shallow coastal marine habitats.	Suitable foraging habitat occurs within the LA River corridor. There are occurrences recorded on eBird in Lewis McAdams Riverfront Park approximately 0.6 miles southwest of the BSA from 2022, in the Frogtown area approximately 1 mile south of the BSA from 2021, and in the Rio de Los Angeles State Park approximately 0.6 miles from the BSA from 2022.	**Not Likely to Occur for Nesting/High for Foraging**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Plegadis chihi	white-faced ibis	**WL, S3S4**	Feeds in fresh emergent wetlands, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense, fresh emergent wetlands.	Marginally suitable foraging habitat occurs within the LA River corridor. There is one occurrence recorded on eBird in Lewis McAdams Riverfront Park approximately 0.6 miles southwest of the BSA from 2022, and one occurrence recorded in Frogtown approximately 1 mile downstream from the BSA from 2023.	**Not Likely to Occur for Nesting/Low for Foraging**
Polioptila californica californica	coastal California gnatcatcher	**FT, SSC, S2**	Obligate, permanent resident of coastal sage scrub below 2500 feet in Southern California. Low, coastal sage scrub in arid washes and on mesas and slopes with California sagebrush (*Artemisia californica*) as a dominant or co-dominant species. Not all areas classified as coastal sage scrub are occupied.	Marginally suitable nesting and foraging habitat occurs within the BSA. However, the only occurrences within 20 years are all from at least 9 miles from the BSA.	**Low for Nesting/Low for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Riparia riparia	bank swallow	**ST, S2**	Low areas along rivers, streams, ocean coasts, and reservoirs. Nesting habitat is vertical banks of fine textured soils, most commonly along streams and rivers. Forage in open areas and avoid places with tree cover.	Marginally suitable nesting and foraging habitat occurs within the BSA along the LA river. However, the BSA is outside of the breeding range of this species. The only recorded occurrence within 5 miles is from over 100 years ago.	**Not Likely to Occur for Nesting/Low for Foraging**
Setophaga petechia	yellow warbler	**SSC, S3S4**	Yellow warblers generally occupy riparian vegetation in close proximity to water along streams and in wet meadows. They can be found roosting and nesting in willows and cottonwoods in river corridors.	Suitable nesting habitat and foraging habitat occurs in vegetated sections of the Los Angeles River corridor. This species was observed in May 2022 by Stantec biologists within the Los Angeles River corridor adjacent to the Bowtie Parcel.	**Moderate for Nesting/Moderate for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Vireo bellii pusillus	least Bell's vireo	**FE, SE, S2**	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Often inhabits structurally diverse woodlands along watercourses including cottonwood-willow and oak woodlands and mulefat scrub. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, or mesquite.	Marginally suitable nesting habitat and suitable foraging habitat occurs within the BSA along the LA River. All CNDDB occurrences within 5 miles of the BSA are from over 100 years ago. More recent occurrences, from 2013 and 2015, are 7 and 10 miles away from the BSA. There are two eBird records from locations within 0.25 miles of the BSA in 2021 and 2022.	**Low for Nesting/Moderate for Foraging**
MAMMALS					
Antrozous pallidus	pallid bat	**SSC, S3**	Desert, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats form high temperatures. Very sensitive to disturbance of roosting sites.	No suitable habitat occurs within the site. All occurrences are from over 20 years ago and over 5 miles from the BSA.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Eumops perotis californicus	western mastiff bat	**SSC, S3S4**	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, bridges, trees, and tunnels. In California, most records are from rocky areas at low elevations.	No suitable habitat occurs within the BSA. All occurrences within 5 miles are from over 20 years ago.	**Not Likely to Occur**
Lasionycteris noctivagans	silver-haired bat	**S3S4**	Coastal and montane forest. Forages over streams, ponds, and brushy areas, and requires follows of trees for roost habitat. Conifer and mixed conifer/hardwood forests. Roosts mainly in hollows or crevices of trees, but may also roost in rock crevices, mines, or caves. Forages over streams, ponds, and brushy areas.	No suitable habitat occurs within the BSA. All occurrences within 5 miles are from over 20 years ago.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Lasiurus cinereus	hoary bat	**S4**	Forages over a wide range of habitats but prefers open habitats with access to water and trees for roosting. Typically solitary, roosting in the foliage of shrubs or coniferous and deciduous trees. Roosts are usually near the edge of a clearing.	Marginally suitable habitat. All occurrences within 5 miles are from over 20 years ago.	**Low**
Lasiurus xanthinus	western yellow bat	**SSC, S3**	Occurs in Los Angeles and San Bernardino Counties south to the Mexican border. Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats below 600 m.	Untrimmed palm trees are present in the BSA, but outside of the Project area. There is an occurrence 1 mile from the BSA from 1984.	**Moderate**
Microtus californicus stephensi	south coast marsh vole	**SSC, S1S2**	Occurs in the area of tidal marshes in Los Angeles, Orange, and southern Ventura Counties.	No suitable habitat present within the BSA. No recorded occurrences within 5 miles of the BSA.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Neotoma lepida intermedia	San Diego desert woodrat	**SSC, S3S4**	Inhabits most of southern California, with range extending northward along the coast to Monterey Co., and along the Coast Range to San Francisco Bay. Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Also found in other habitats.	Marginally suitable habitat occurs within the BSA within the low quality coastal scrub. Two occurrences from 2006 were documented approximately 5 miles from the site.	**Moderate**
Nyctinomops macrotis	big free-tailed bat	**SSC, S3**	Limited distribution in California. Prefers rugged, rocky canyons, but will also roost in buildings, caves, and occasionally in holes in trees.	No suitable habitat occurs within the BSA. Two occurrence 5 miles and 3 miles from the BSA were recorded in 1987 and 1985.	**Not Likely to Occur**
Onychomys torridus ramona	southern grasshopper mouse	**SSC, S3**	Low, semi-open, and open scrub habitats, including chaparral, coastal sage scrub, and low sagebrush.	Marginally suitable habitat occurs within the BSA in the low quality coastal scrub. The only recorded occurrence is from over 100 years ago.	**Low**
Perognathus longimembris brevinasus	Los Angeles pocket mouse	**SSC, S3**	The habitat of Los Angeles pocket mice includes lower elevation grassland, alluvial sage scrub, and coastal sage scrub.	Marginally suitable habitat occurs within the BSA in the disturbed coastal scrub. The only recorded occurrence is from over 100 years ago.	**Low**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Taxidea taxus	American badger	**SSC, S3**	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open and uncultivated ground. Preys on burrowing rodents. Digs burrows.	No suitable habitat occurs within the BSA. There is one occurrence within the site, but it has no date of when it was recorded.	**Not Likely to Occur**

State Rankings:
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S5 = Secure
SH = Possibly Extirpated
SX = Presumed Extirpated
SC = State Candidate for Listing
SD = State Delisted
SA = CDFW Special Animal
SE = State Endangered
ST = State Threatened
FP= Fully Protected
SSC = Species of Special Concern
WL = Watch List

Federal Rankings:
FE = Federally Endangered
FT = Federally Threatened
FD = Federally Delisted
BCC = USFWS Bird of Conservation Concern

Bird Species Occurrence Potential:
The first Occurrence Potential determination is based on nesting habitat and the second determination is based on foraging habitat.

BSA=Biological Study Area
CNDDB =California Natural Diversity Database

3.4.1.6 Special-Status Plants

Table 11 presents a list of special-status plants, including federally and state listed species and CRPR 1-4 species that are known to occur within 10 miles of the BSA (Appendix B, Figures 6 and 6a provide a depiction of known species locations).

Record searches of the CNDDB, the CNPS Online Inventory, and the Consortium of Critical Herbaria was performed for special-status plant taxa. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- **Present**: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- **High**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Moderate**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal or limited within the BSA, or the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Low**: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles), and the environmental conditions (including soil type) associated with taxa presence are marginal or limited within the BSA.
- **Not Likely to Occur**: The environmental conditions associated with taxa presence do not occur within the BSA.

While many of the species listed below in Table 11 have potential to occur within the BSA, they are not expected to occur within the Project area due to the lack of suitable habitat.

Table 11 Known and Potential Occurrences of Special Status Plant Taxa within the Biological Study Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Arenaria paludicola marsh sandwort	**FE, SE, 1B.1, S1**	Marshes and swamps (fresh water or brackish); sandy substrates; found in open habitats. Elevation range: 3-170 m.	March-August	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles southwest of the BSA; however, this observation is from over 120 years ago in 1900.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Astragalus brauntonii Braunton's milk-vetch	**FE, 1B.1, S2**	Chaparral, valley grasslands, coastal sage scrub, and closed-cone pine forest. Occurs in disturbed habitat and requires gravelly clay soils. Elevation range: 4-640 m.	January-August	**Low:** Marginally suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 7 miles west of the BSA; however, this observation is from more than 80 years ago in 1930.
Astragalus tener var. *titi* coastal dunes milk-vetch	**FE, SE 1B.1, S1**	Coastal bluff scrub (sandy), coastal dunes, and coastal prairie (mesic). Often in vernally mesic areas. Elevation range: 1-50 m.	March-May	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles south southwest of the BSA; however, this observation was recorded 90 years ago in 1930.
Atriplex parishii Parish's brittlescale	**1B.1, S1**	Native to Central and Southern California often found in dry lake beds, playas, and ephemeral vernal pools. Saline and alkaline soils. Elevation range: 0-470 m.	June-October	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 4.5 miles northwest of the BSA.
Atriplex serenana var. *davidsonii* Davidson's saltscale	**1B.2, S1**	Coastal scrub, bluffs, Chenopod scrub, playas, and vernal pools from southern California to Baja California. Elevation range: 0-200 m.	April-October	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 3 miles to the southwest of the BSA; however, this observation is from more than 110 years ago.
Berberis nevinii Nevin's barberry	**FE, SE, S1, 1B.1**	Chaparral of inland canyons and foothills in southern California. It is also widely cultivated in gardens and parks. Elevation range: 40-2280 m.	March-June	**Not Likely to Occur:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is a planted population approximately 3 miles west northwest of the BSA located in Griffith Park. It was not observed during the field survey and is not likely to occur.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Calochortus clavatus var. *gracilis* slender mariposa-lily	**S2S3, 1B.2**	Valley and foothill grassland, coastal scrub, and chaparral. Elevation range: 5-2540 m.	May-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrences are from within the past 20 years, presumed extant, and located 4 miles west northwest and 9 miles north northwest.
Calochortus plummerae Plummer's mariposa-lily	**4.2, S4**	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Granite and rocky substrates. Elevation range: 100-1,700 m.	May-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 4 and 9 miles north northeast of the BSA from within the past 30 years.
Calystegia felix lucky morning-glory	**1B.1, S1**	Historically associated with wetland and marshy places, but possibly in drier situations as well. Possibly silty loam and alkaline, meadows and seeps (sometimes alkaline), and riparian scrub (alluvial). Elevation range: 30-215 m.	March-September	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 2 miles west southwest and 7 miles southwest of the BSA from more than 120 years ago in 1899.
Centromadia parryi ssp. *australis* southern tarplant	**1B.1, S2**	Marshes and swamps (margins), valley and foothill grasslands (vernally mesic), and vernal pools; often in disturbed sites near the coast at marsh edges; also, in alkaline soils sometimes with saltgrass. Elevation range: 0-480 m.	May-November	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 2 miles and 8 miles northeast of the BSA from 1930 and 1950.
Centromadia pungens ssp. *laevis* smooth tarplant	**1B.1, S2**	Chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grasslands. Elevation range: 0-610 m.	April-September	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately five miles east northeast of the BSA from 1901.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	**FC, SE, 1B.1, S1**	Annual; sandy areas in coastal scrub and native grasslands; Los Angeles and Ventura Counties. Elevation range: 150-1220 m.	April-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is five miles northwest of the BSA; however, this observation is from more than 110 years ago in 1890.
Chorizanthe parryi var. *parryi* Parry's spineflower	**1B.1, S2**	Annual; Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation range: 275-1220 m.	April-June	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are eight miles north northeast and 6 miles of the BSA; however, one observation is from more than 100 years ago in 1919 and the other observation does not have a date associated with it.
Dodechahema leptoceras slender-horned spineflower	**FE, SE, 1B.1, S2**	Annual. Chapparal, cismontane woodland, and coastal scrub. Southern California. Elevation range: 200-760 m.	April-June	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrences are 6 and 7 miles northeast and north of the BSA from 1920 and 1916.
Dudleya multicaulis many-stemmed dudleya	**1B.2, S2**	Chaparral, coastal scrub, and valley and foothill grassland. Elevation range: 15-790 m.	April-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 3 miles west from 1925.
Helianthus nuttallii ssp*. parishii* Los Angeles sunflower	**1A, SH**	Marshes and swamps (coastal salt and freshwater). Elevation range: 10-1,525 m.	August-October	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 6 miles east of the BSA from 1901.
Horkelia cuneata var. *puberula* mesa horkelia	**1B.1, S1**	Chaparral, cismontane woodland, and coastal scrub. Sandy or gravelly sites. Elevation range: 15-1,645 m.	February-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recent recorded occurrences are approximately 2 miles north northeast and 9 miles northeast of the BSA from 1906 and 1967.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	**1B.1**	Marshes and swamps (coastal salt), playas, and vernal pools; Usually found on alkaline soils in playas, sinks, and grasslands. Elevation range: 1-1,375 m.	February-June	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 5 miles east northeast and 10 miles southwest of the BSA from 1882 and 1934.
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	**S3**	Chaparral and coastal scrub. Elevation range: 5-885 m.	January-July	**Not Likely to Occur:** Suitable habitat does not occur with the BSA. The nearest and most recently recorded occurrences are approximately 4 miles south southeast and 9 miles east northeast of the BSA from 1950 and 1994.
Malacothamnus davidsonii Davidson's bush-mallow	**1B.2, S2**	Chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevation range: 185-1140 m.	June-January	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrences are approximately 8 miles north northwest and 9 miles northwest of the BSA from 2003 and 2015.
Nasturtium gambelii Gambel's water cress	**FE, ST, 1B.1, S1**	Marshes and swamps (freshwater or brackish). Elevation range:5-330 m.	April-October	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles southwest of the BSA from 1904.
Navarretia prostrata prostrate vernal pool navarretia	**1B.2, S2**	Coastal scrub, valley and foothill grassland, vernal pools, and meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevation range: 3-1,235 m.	April-June	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is 3 miles southwest of the BSA from 1907.
Pseudognaphalium leucocephalum white rabbit-tobacco	**2B.2, S2**	Chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevation range: 0-2100 m.	(July) August-November (December)	**Low:** Marginally suitable habitat occurs with the BSA. The nearest and most recently recorded occurrences are approximately 4 miles west and 8 miles north of the BSA from 1907 and 1932.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Quercus dumosa Nuttall's scrub oak	**1B.1, S3**	Closed-cone coniferous forest, chaparral, and coastal scrub. Generally, on sandy soils near the coast; sometimes on clay loam. Elevation range: 15-640 m.	February-May (May-August)	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrences are approximately 2 miles west from 1924 and 10 miles southwest from 2009.
Ribes divaricatum var. *Parishii* Parish's gooseberry	**1A, SX**	Riparian woodland. Elevation range: 65-300 m.	February-April	**Low:** Marginally suitable habitat occurs within the LA river in the BSA. The nearest recorded occurrence is 1 mile from the BSA from 1893.
Sidalcea neomexicana salt spring checkerbloom	**2B.2, S2**	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and alkali springs and marshes. Elevation range: 3-2,380 m.	March-June	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrences are approximately 3 miles south and 9 miles southwest of the BSA from 1902 and 1922.
Spermolepis lateriflora western bristly scaleseed	**2A, SH**	Sonoran desert scrub. Elevation range: 60 – 1,500 m.	March-April	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 8 miles north of the BSA from 1930.
Symphyotrichum defoliatum San Bernardino aster	**1B.2, S2**	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, and valley and foothill grassland. Vernally mesic grassland, near ditches, streams, and springs, and disturbed areas. Elevation range: 3-2,045 m.	July-November	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 4 miles west and 7 miles southwest of the BSA; however, these observations are from more than 110 years ago in 1893 and 1904.
Symphyotrichum greatae Greata's aster	**1B.3, S2**	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland. Elevation range: 300-2010 m.	June-October	**Not Likely to Occur:** Suitable habitat does not occur with the BSA. The nearest recorded occurrences are approximately 1 mile south and 9 miles north northeast of the BSA from 1932 and 1991.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	**2B.2, S2**	Meadows and seeps (seeps and streams) and riparian habitats. Elevation range: 50-610 m.	January-September	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles north northeast from the BSA from 1967.

Status Codes
Federal Designation
FE = Federally Endangered
FC = Federal Candidate Species for Listing
CDFW State Designation
SE = State Endangered
ST = State Threatened
State Ranking
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S5 = Secure
SH = Possibly Extirpated
SX = Presumed Extirpated

CNPS CRPR Designation
1A = Plants considered by the CNPS to be extinct in California
1B = Plants rare, threatened, or endangered in California and elsewhere.
2A. Presumed extinct in California, extant and more common elsewhere
2B. Rare or endangered in California, more common elsewhere
3. Plants for which we need more information - Review list
4. Plants of limited distribution - Watch list
.1 = Seriously threatened in California (high degree/immediacy of threat).
.2 = Fairly threatened in California (moderate degree/immediacy of threat).
BSA = Biological Study Area
m = meter

3.4.1.7 Wildlife Movement

The BSA is located in a heavily developed area but contains localized portions of open space and riparian habitat along the LA River. The LA River was identified as a potential riparian habitat connection by the California Essential Habitat Connectivity Project (Spencer et al. 2010). Although, degraded and disturbed in many parts, the LA River is still an important wildlife corridor for many riparian and wildlife species (USACE 2015). Numerous species of fish, amphibians, mammals, waterfowl, songbirds, raptors, and invertebrates use the LA River corridor for foraging and movement.

Within the BSA, the level of surrounding urban development, presence of physical barriers, and lack of native habitat outside of the LA River, would significantly constrain the passage of most large terrestrial wildlife known to occur in the region. Terrestrial wildlife corridors between the BSA and other areas of open space are extremely constrained by roadways, and commercial and residential development. However, wildlife movement between the river corridor and the BSA would be relatively unconstrained if existing fencing near the upper riverbank is removed or modified to allow for wildlife passage.

3.4.2 Environmental Impact Analysis

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or regulated by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Finding: Less than Significant Impact With Mitigation Incorporated

Special-Status Plant Species

Construction and operation of the proposed Project is not expected to result in direct or indirect impacts to listed or other special-status plants. The majority of special-status plants known to occur in the region have been determined to have no or a low potential to occur within the proposed Project site. No special-status plant species were observed within the proposed Project site. If any listed or other special-status plants are encountered during pre-construction surveys, they would be marked and avoided to the maximum extent possible.

If present, direct impacts to special-status plants include trampling or crushing from heavy equipment, vehicles, or foot traffic; alterations to the native seed bank due to soil compaction; and modifications to existing hydrological conditions. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native and invasive plant species. Excessive dust can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Ground-disturbing activities that would occur during construction of the proposed Project can result in the proliferation and spread of non-native invasive plants to new areas. Because noxious weeds can permanently degrade rare plant and animal habitats, their proliferation could adversely affect sensitive plant species if they are present.

Typically, impacts to a small number of non-state or federally listed special-status plants (i.e., impacts to a few individuals), or impacts to a population where loss of a few occurrences would not adversely affect the range of the special-status plant species, are not typically considered significant under CEQA. Pursuant to coordination with the Lead Agency, if proposed Project activities result in the loss of more than 10 percent of the known individuals within the occurrence, or the special-status plant species has a CRPR of 1.B or list 2, these impacts would be considered significant.

A reconnaissance level survey for terrestrial and aquatic biological resources was conducted on May 26, 2022.

Special-Status Invertebrates

Surveys within the proposed Project site did not result in the detection of any special-status invertebrate species. While both Crotch bumble bee (*Bombus crotchii*) and western ridged mussel (*Gonidea angulata*) were determined to have a high potential to occur in the BSA, suitable habitat for these species do not occur within the proposed Project impact areas. If present, direct impacts could result from potential mechanical crushing during construction, fugitive dust, and general disturbance due to increased human activity. Proposed Project implementation may also result in permanent loss of habitat from the removal of debris piles or trampling of soft friable soils required for burrowing. Indirect impacts could include compaction of soils and the introduction of exotic plant species.

Operational impacts include increased human presence, the spread of noxious weeds due to the use of new or improved access roads, and increased perch sites for avian predators. Inspection and maintenance of the underground gen-tie lines could result in trampling or crushing of small invertebrates by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence (e.g., weed seed traveling on vehicles).

Special-Status Fish

Surveys within the proposed Project site did not result in the detection of any special-status fish species nor are there records of any special-status fish species in the general region.

Special-Status Amphibians

Surveys within the proposed Project site did not result in the detection of any special-status amphibian species. Amphibian species known to occur in the general region of the proposed Project site were determined to have a low or no potential of occurrence. Construction activities associated with the proposed Project could result in the direct loss of sensitive amphibians should they occur. Given the ecology of these species and their cryptic nature, it is possible that a few individuals may occur in or near the proposed Project site. Direct impacts could result from potential mechanical crushing during construction, fugitive dust, and general disturbance due to increased human activity. Project implementation may also result in permanent loss of habitat from the removal of debris piles or trampling of soft, friable soils required for burrowing. Indirect impacts could include compaction of soils and the introduction of exotic plant species. However, the overall intent of the proposed Project is to create seasonal wetland and upland habitats, which would provide suitable habitat for special-status amphibians that is currently absent from proposed Project areas.

Operational impacts include increased human presence and increased perch sites for avian predators. Inspection and maintenance of the Project could result in trampling or crushing of small invertebrates and amphibians by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence .

Special-Status Reptiles

During surveys conducted within the proposed Project areas, no special-status reptiles were observed in the proposed Project area. The majority of special-status reptiles known to occur in the region were determined to have a low or no potential to occur in the proposed Project site; one species, southern California legless lizard (*Anniella stebbinsi*), a CDFW Species of Special Concern, was determined to have a moderate potential to occur. The only reptile observed during the site reconnaissance was the common western fence lizard (*Sceloporus occidentalis*). Impacts to special-status reptile species would be similar to those noted above for special-status amphibians.

Click or tap here to enter text.Click or tap here to enter text.**Special-Status Birds**

Although observed within the larger BSA, no special-status birds were observed within the proposed Project site. Construction activities associated with the proposed Project could result in direct and indirect impacts to a variety of sensitive resident and migratory birds. However, direct impacts to listed species are not anticipated because nesting and/or foraging habitat for most listed birds is not present onsite.

If the proposed Project construction were to occur during the avian nesting season (generally considered to be between February 15 and September 15; although some raptors species may nest as early as January) indirect impacts to nesting birds could occur. Nesting birds are expected to occur adjacent to proposed Project areas and may forage within the proposed Project site. Direct impacts to special-status birds, should they occur, include ground-disturbing activities associated with construction, increased noise levels from heavy equipment, increased human presence, and exposure to fugitive dust. Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. Indirect impacts include human disturbance, the spread of noxious weeds, and disruption of breeding or foraging activity. Weed management could also affect nesting.

Click or tap here to enter text.**Special-Status Mammals**

No special-status mammals are known to occur or have been observed on the proposed Project site. Most special-status mammals known to occur in the region were determined to have a low or no potential to occur in the proposed Project area. Western yellow bat (*Lasiurus xanthinus*) and San Diego desert woodrat (*Neotoma lepida intermedia*), both CDFW Species of Special Concern, were determined to have a moderate potential to occur. Bat emergence surveys conducted within the proposed Project areas did not result in the detection of any bat species.

Construction activities associated with the proposed Project could result in direct and indirect impacts to a variety of listed and other special-status mammals should they occur. Direct impacts could include mortality from grading and vegetation removal activities, disturbance from noise and vibration, impacts from man-made sources of light, and increased traffic. Indirect impacts to mammals could include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds.

If construction and operation of the proposed Project were to impact special-status species, these impacts would be considered significant. Therefore, mitigation measures BIO-1 through BIO-4, which would require pre-construction clearance surveys prior to ground disturbance, relocation of wildlife found within proposed Project impact areas during pre-construction surveys, daily monitoring, implementation of environmental awareness training to educate proposed Project personnel regarding onsite plants and wildlife, implementation of site-wide best management practices (BMPs; i.e., restriction on open trenches and guidelines for refueling near drainage features), and nesting bird surveys and avoidance measures for active nests. These measures would be implemented to mitigate these potentially significant impacts. Implementation of these mitigation measures would ensure that potential impacts to special-status plant and wildlife species are reduced to a less than significant level during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Clearance Surveys and Biological Monitoring: Prior to ground disturbance or vegetation clearing within the proposed Project site, a qualified biologist shall conduct pre-construction clearance surveys for wildlife (no more than 7 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. Wildlife found within the proposed Project site or in areas potentially affected by the proposed Project shall be relocated to the nearest suitable habitat that would not be affected by the proposed Project prior to the start of construction. Special-status species found within a proposed Project impact area shall be relocated by a qualified biologist to suitable habitat outside the impact area prior to the start of ground-disturbing activities that may impact those species; this activity may be subject to prior incidental take authorization if required. Nesting birds found within the proposed Project impact areas shall be subject to buffer requirements and additional conditions as detailed below in mitigation measure BIO-4.

A qualified biologist shall be onsite during all ground disturbance and vegetation removal activities throughout the construction phase. The qualified biologist(s) shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed, the species are allowed to leave, or are removed, and the species is no longer at risk. The qualified biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite.

If required during pre-construction clearance surveys or required monitoring efforts, the qualified biologist(s) shall relocate common and special-status species that enter the proposed Project site; some special-status species may require specific permits prior to handling or have established protocols for relocation. Records of all detection, capture, and release shall be reported to CDFW and/or USFWS as appropriate. Should a federally or State listed species be discovered onsite, at any time, then activities shall be suspended, and the USFWS and/or CDFW contacted, as appropriate. Work shall not resume until coordination/consultation with the USFWS and/or CDFW has been completed, and recommended measures/ requirements have been implemented to minimize harm/harassment to the species.

BIO-2 Environmental Awareness Training: Prior to initial ground disturbance, the Applicant shall submit proof to California State Parks that all proposed Project personnel have attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the proposed Project team shall comply with. The training program shall include applicable measures established for the proposed Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to California State Parks. Copies of all training materials shall be maintained at the site for workers to reference and shall be provided in Spanish, as needed. A qualified biologist shall provide and document all trainings.

BIO-3 Implement Best Management Practices: Prior to initial ground disturbance, the Applicant shall submit grading plans and specifications to California State Parks, which indicate that the proposed Project shall implement the following BMPs:

- Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation.
- All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth dirt fill or wooden planks; escape ramps should be placed at an angle no greater than 30 degrees. Trenches shall also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped wildlife. Any wildlife discovered shall be allowed to escape before construction activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).
- All staged equipment, staged materials (e.g., pipe) or any other construction products that could shelter small animals overnight or during periods of work inactivity, shall be inspected for wildlife prior to moving. All sections of pipe shall be visually checked for the presence of wildlife prior to being removed from the project site. If any sections of pipes are being stored onsite for any length of time, they shall be visually checked to ensure wildlife is absent and then all ends capped to prevent wildlife entry.
- Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians.

- Removal or disturbance of vegetation shall be minimized to the greatest extent feasible.
- Installation and maintenance of appropriate erosion and sediment control measures as needed throughout the duration of work activities.
- Implementation of a 15 miles per hour (MPH) speed limit within all proposed Project areas.
- No vehicles or equipment shall be refueled, cleaned, or maintained (e.g., oil changed), nor shall other actions (e.g., washing of tools used for painting) that could result in the release of a hazardous substance, occur within 100 feet of a drainage or wetland unless a bermed and lined refueling area is constructed that would prevent the accidental spill of fuel, oil, or chemicals. Approved/designated areas should be in a location where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water), unless a requested exception is granted or prior written approval obtained. Spill kits shall be maintained onsite in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each; any spills or discharges shall be immediately contained, cleaned up, and properly disposed.
- The proposed Project area shall be kept clear of trash to avoid attracting scavengers/predators. All food and garbage shall be placed in sealed containers and regularly removed from the site. Following construction, any trash, debris, or rubbish remaining within the work limits shall be collected and hauled off to an appropriate facility.
- No rodent poisons or rodenticide shall be used to control rodents. These products, even used properly, can lead to secondary exposure to wildlife.
- All work shall be performed during daylight hours. No nighttime operations (including lighting) shall be authorized to complete the project.
- Work limits, as defined on project plans, shall be clearly delineated onsite (e.g., using orange snow fence, silt fence, lath and survey tape, etc.) prior to the start of any construction activities. No work shall occur outside of the approved work limits.
- Work shall be limited to the construction footprint, as outlined in the Project plans. Access routes, staging areas, and the total footprint of disturbance shall be limited to the minimum number/size necessary to complete the Project and avoid resource impacts. All routes of travel and work boundaries shall be configured to avoid unnecessary intrusions into surrounding habitat.
- Conditions set forth in any project-related permits/approvals shall be observed and implemented as part of construction.
- No erosion control materials potentially harmful to fish and wildlife species, such as plastic mesh, mono-filament netting, or similar material shall be used. Erosion and sediment control devices, such as erosion control blankets, erosion control netting, and fiber rolls, shall be made of biodegradable loose-weave mesh that is not fused at the intersections of the weave (i.e., jute, coir/coconut fiber, or other natural fiber products without welded weaves) to avoid creating a wildlife

entanglement hazard. In addition, weed-free products shall be used to minimize the spread of exotics.

- All equipment shall be cleaned of dirt and vegetative material prior to arrival at and departure from the Project site to minimize the opportunity for the spread of non-native species, including noxious weeds. All imported fill shall be clean/certified free of invasive species
- Any non-native, weedy vegetation removed during the clearing and grading activities shall be collected, treated, and disposed of as recommended by the qualified biologist.

BIO-4 Nesting Bird Surveys and Avoidance Measures: Prior to initial ground disturbance or vegetation removal, the Applicant shall provide evidence to California State Parks of the following. If initial site disturbance is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 through August 15 for raptors), breeding and nesting bird surveys shall be conducted by a qualified biologist no more than 3 days prior to the start of site disturbance. Should work be suspended or delayed for a period of greater than seven 7 days (during the nesting season), then the qualified biologist, at their discretion, shall complete an additional nesting bird survey to ensure that no additional nesting has occurred within or adjacent to the Project area. If construction activities carry over into a second nesting season(s), the surveys shall be completed annually until the proposed Project is complete. Surveys shall be conducted within 500 feet of all proposed Project activities.

The Applicant shall coordinate with USFWS and/or CDFW if endangered or threatened species are observed. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest, and no activities shall be allowed within the buffer(s) until the young have fledged from the nest or the nest fails; initial buffers for nesting raptors shall be 500 feet; a buffer of 0.25 mile shall be used for nesting peregrine falcon unless the line-of-sight from the edge of development is obscured as determined by a qualified ornithologist. The prescribed buffers for common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors; for example, buffers for common passerines, often found to be habituated to human activity, may be adjusted down to 25 - 50 feet depending on the disturbance tolerance of each specific species. Buffer adjustments for listed and/or other special-status species shall be done in coordination with the USFWS and CDFW as applicable. The qualified biologist shall conduct regular monitoring of the nest to determine success or failure and to ensure that proposed Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Finding: Less Than Significant Impact with Mitigation Incorporated

No sensitive habitat communities would be temporarily or permanently impacted by proposed construction activities. All impacted habitat or land cover types consist of areas mapped as ornamental non-native, fountain grass swards, and disturbed/developed; refer to Table 12 below for a breakdown of Project related impacts.

Table 12 Impacts to Vegetation Communities and Land Cover Types Occurring within the Proposed Project Area

Vegetation Community/Land Cover Type	Habitat Type	Acreage of Permanent Project Impacts (Project Site)	Acreage of Temporary Project Impacts (Proposed Location of Spoil Stockpiles)
Fountain grass swards	Upland	0.00	--
Gooding's willow – red willow riparian woodland and forest	Riverine	--	--
Ornamental non-native	Upland	0.39	0.29
California buckwheat scrub (Planted)	Upland	--	--
Disturbed/Developed	Upland	2.77	0.74
Open water	Riverine	--	--
Total		3.16	1.03

Construction of the Project would remove non-native/invasive vegetation, alter soil conditions, and have the potential to result in the loss of native seed banks within portions of the BSA. Construction activities could also result in the spread of noxious weeds within the Project site and adjacent habitats. During operation and maintenance of the Project, impacts would occur during routine maintenance activities and could include trampling or crushing of native vegetation by foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.

Riparian habitats, including ephemeral and perennial streams, are biologically productive and diverse, and are the exclusive habitat of several threatened or endangered wildlife species and many other special-status species. Riparian and wetland habitats are highly productive ecosystems that also provide drinking water sources and foraging, nesting, and cover habitat for a diverse assemblage of wildlife species, both within the riparian habitats and adjacent upland habitats. Many wildlife species are wholly dependent on riparian habitats throughout their life cycles, and many others use riparian habitats only during certain seasons or life history phases. For example, certain mammals require drinking water or cool, shaded cover during summer but otherwise may live in upland habitats. Numerous amphibians breed in aquatic habitats but spend most of their lives in uplands.

If construction and operation of the proposed Project were to impact riparian or other sensitive natural communities as a result of being adjacent to these habitats, impacts would be considered significant. Therefore, mitigation measures BIO-1 through BIO-3, which would require daily monitoring, implementation of environmental awareness training to educate proposed Project personnel regarding onsite plants and wildlife, and implementation of site-wide BMPs would be implemented to mitigate these potentially significant impacts. Implementation of these mitigation measures would ensure that potential impacts to riparian habitats or other sensitive natural communities are reduced to a less than significant level during the construction phase and operations phase.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Clearance Surveys and Biological Monitoring

BIO-2 Environmental Awareness Training

BIO-3 Implement Best Management Practices

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Finding: Less Than Significant Impact with Mitigation Incorporated

There are no potential jurisdictional features within the proposed Project area so there would be no impacts to jurisdictional features. Adjacent (southwest) to the proposed Project area and within the BSA is the Los Angeles River, however there are no proposed impacts to this feature.

The importance of intermittent, perennial, and ephemeral streams to wildlife in arid environments is well known. Ephemeral drainages, such as the desert washes and playas within the proposed Project site, provide unique habitat that is distinct from the surrounding uplands, providing more continuous vegetation cover and microtopographic diversity than the surrounding uplands. Ephemeral, perennial, and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity. They have higher moisture content and provide shade and cooler temperatures within the channel. In cases where the habitat is distinct in species composition, structure, or density, wash communities would provide habitat values not available in the adjacent uplands. Direct impacts to WOTUS, Waters of the State, and CDFW jurisdictional waters would include the removal of native vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Potential indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native and invasive plant species.

proposed Project-related impacts to jurisdictional waters are not expected, however, if they were to occur, could be considered significant. As required by law, however, the Applicant would comply with state and federal regulations regarding conducting proposed Project activities in water courses and habitats under the jurisdiction of the CDFW, RWQCB, and USACE. In compliance with state and federal regulations, the Applicant would obtain permits pursuant to Sections 401 and 404 of the Clean Water Act, California Porter-Cologne Water Quality Control Act, and Fish and Game Code Section 1600 et seq. to the extent required by the Project. The RWQCB published new regulations governing the protection of wetlands and state waters on May 28, 2020.

Obtaining the required regulatory permits (if required), in conjunction with on-site monitoring (BIO-1), worker environmental awareness training (BIO-2) and best management practices (BIO-3) would ensure that potential impacts to jurisdictional features are reduced to a less than significant level during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Clearance Surveys and Biological Monitoring

BIO-2 Environmental Awareness Training

BIO-3 Implement Best Management Practices

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Finding: Less Than Significant Impact

The proposed Project is located in a heavily developed area but contains localized portions of open space and riparian habitat along the LA River. The LA River was identified as a potential riparian habitat connection by the California Essential Habitat Connectivity Project (Spencer et al. 2010). Although, degraded and disturbed in many parts, the LA River is still an important wildlife corridor for many riparian and wildlife species (United States Army Corps of Engineers, 2015). Numerous species of fish, amphibians, mammals, waterfowl, songbirds, raptors, and invertebrates use the LA River corridor for foraging and movement.

Within the proposed Project site, the level of surrounding urban development, presence of physical barriers, and lack of native habitat outside of the LA River, currently significantly constrain the passage of most large terrestrial wildlife known to occur in the region. Terrestrial wildlife corridors between the proposed Project site and other areas of open space are extremely constrained by roadways, and commercial and residential development. Construction of the proposed Project would result in a net gain in suitable habitat for various species known to occur in the region and may act as a refuge for species moving up and down the LA River Corridor. Given the current conditions at the proposed Project site, construction and operation of the proposed Project would result in less than significant impacts to wildlife movement.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Finding: No Impact

The proposed Project would not conflict with the Conservation and Natural Resources Element of the Los Angeles County General Plan or the Conservation and Open Space Elements of the City of Los Angeles General Plan. There are no trees present on the Project site that are protected by ordinance. Therefore, the proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and there would be no impact during the construction and operations phase.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Finding: No Impact

All applicable adopted habitat conservation plans, natural community conservation plans, or other conservation plans have been reviewed for consistency with the proposed Project, and no conflict with the provisions of an adopted or otherwise approved local conservation plan was identified. Therefore, the proposed Project would not conflict with any conservation plan, and there would be no impact during the construction and operations phase.

3.5 CULTURAL RESOURCES

CULTURAL and TRIBAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

3.5.1 Environmental Setting

A summary of the cultural setting is provided below to place the Project area within relevant temporal and ethnographic settings. These settings inform expectations of the types of resources that could be encountered and provide context for which cultural resources might be assessed for significance.

3.5.1.1 Prehistoric Overview

The chronology of southern California is typically divided into three general time periods: The Early Holocene (9,600 B.C. to 5,600 B.C.), the Middle Holocene (5,600 B.C. to 1,650 B.C.), and the Late Holocene (1,650 B.C. to A.D. 1769). This chronology is characterized in the archaeological record by the presence of particular artifacts and other practices that indicate specific technologies, economies, and trade networks.

Early Holocene (9,600 B.C to 5,600 B.C)

It is not certain when humans first came to California; however, human occupation in southern California is well documented by roughly 9,600 B.C. During the Early Holocene, the climate of southern California became much warmer and more arid. Human populations were made up of small hunter-gatherer groups, residing mainly in coastal or inland desert areas, and began exploiting a wider range of plant and animal resources (Byrd and Raab 2007).

Middle Holocene (5,600 B.C. to 1,650 B.C.)

During the Middle Holocene, there is evidence of a shift toward a more diverse economy, and subsistence systems focused on plant foods and foraging. The first confirmed evidence of human occupation in the Los Angeles area is associated with the Millingstone cultures that appeared in California around 6,000 to 5,000 B.C. (Byrd and Raab 2007; Wallace 1955; Warren 1968). Millingstone cultures were characterized by the collection and processing of plant foods, such as acorns, and the hunting of a wider variety of game animals (Byrd and Raab 2007; Wallace 1955). They also established more permanent settlements that were located primarily on the coast and in the vicinity of areas with an abundance of resources. Early Millingstone occupations are typically identified by the presence of handstones and millingstones, while those

Millingstone occupations dating later than approximately 3,000 B.C. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Late Holocene (1,650 B.C. to A.D. 1769)

During the Late Holocene, many aspects of Millingstone culture persisted, but several socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). The native populations of southern California were becoming less mobile. Smaller and more sedentary villages with satellite resource gathering camps became more common. An increasing population made it necessary to exploit more terrestrial and marine resources (Erlandson 1994). The exploitation of larger, higher-ranked food sources may have led to a shift in subsistence strategies, where there was more of a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab 2007). The Late Holocene also marks a period in which more specialized labor began to emerge, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Trade during this period reached its zenith as asphaltum (tar), seashells, and steatite were traded from Catalina Island (Pimu or Pimugna) and coastal southern California to the Great Basin. The bow and arrow were introduced sometime after A.D. 500, replacing the dart and atlatl (Byrd and Raab 2007).

In Los Angeles, Orange, western Riverside, and southwestern San Bernardino Counties, the introduction of cremation, elaborate burial practices with grave goods, pottery, and small triangular arrow points are thought to have resulted from Takic migration to the coast from inland desert regions. This Takic or Numic Tradition was formerly referred to as the “Shoshonean wedge” or “Shoshonean intrusion” (Warren 1968). This terminology, used originally to describe an Uto-Aztecan language group, is generally no longer employed to avoid confusion with ethnohistoric and modern Shoshonean groups who spoke Numic languages (Heizer 1978:5; Shipley 1978:88, 90).

3.5.1.2 Ethnographic Overview

The Project area is in the territory known to have been occupied by the Gabrielino (also known as Tongva). The Gabrielino were one of several Takic-speaking groups in Southern California at the time of Spanish contact. The term “Gabrielino” came from the period of missionization with Mission San Gabriel Archangel, established in 1771.

Gabrielino/Tongva

The Gabrielino occupied the southern Channel Islands, the Los Angeles basin, much of Orange County, and extended as far east as the western San Bernardino Valley. They established villages located along rivers and at the mouths of canyons. Populations ranged from 50 to 200 inhabitants. Residential structures within the villages were domed, circular, and made from thatched tule or other available wood. Gabrielino society was organized by kinship groups, with each group composed of several related families who together owned hunting and gathering territories. Settlement patterns varied according to the availability of floral and faunal resources (Bean and Smith 1978; McCawley 1996; Miller 1991).

The Gabrielino were fisher/ hunter-gatherers that exploited a wide array of marine and terrestrial game as well as acorns, Islay, pinion nut, and a wide array of seeds, roots, and other plant materials (Bean and

Smith 1978; McCawley 1996; Miller 1991). The Gabrielino utilized plank canoes (te'aat), dugout canoes, nets, shellfish hooks, harpoons, and traps to exploit a wide array of deep-sea fish, marine mammals, and shellfish. They hunted large game with bow and arrow, and used traps, nets and throwing sticks for small game. Plant processing was done with groundstone milling equipment, baskets, and seed beaters. The Gabrielino had a wide array of decorative and ceremonial objects made from steatite, brownware ceramics, bone, shell, asphaltum, and wood.

By the late 18th century, Gabrielino had significantly dwindled due to introduced European diseases and dietary deficiencies. Gabrielino communities disintegrated as families were taken to the missions (Bean and Smith 1978; McCawley 1996; Miller 1991). However, current descendants of the Gabrielino are preserving Gabrielino culture. Of the Gabrielino groups or tribes, none are federally registered; however, the state does recognize several groups of Gabrielino descent. The nearest Gabrielino villages to the Project according to McCawley include Maungna, near Rancho Los Felis, and Haahamonga, near present-day Glendale (tongvapeople.org N.D.)

3.5.1.3 Historic-era Overview

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978). Vizcaíno also named San Diego Bay to commemorate Saint Didacus. The name began to appear on European maps of the New World by 1624 (Gudde 1998:332). The historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Mission Period (1769–1821)

The return of Spanish presence in California was marked by the 1769 Serra-Portola Expedition, led by Junipero Serra along with Gaspar de Portola. Serra had led the expedition under the authorization of Jose de Galvez, the Visitador of New Spain. Serra was granted leadership of this expeditions because of the military's deep history of abusing the native people they were supposed to be protecting. Serra had experienced how the miliary abuse impeded, or often prevented, the Spanish Franciscans' missionization efforts (Hackel 2013; Sandos 2004; Treutlein 1968; Weber 2009). Shortly thereafter, Spain began to establish a system of pueblos, presidios, ranchos, and missions along the California coast to bolster Spanish settlement. The missionaries established a system of 21 missions along El Camino Real and enacted the practice of missionization or forced removal and "cultural education" of native people. The Missions of San Gabriel and San Fernando were founded in 1771 and 1797, respectively. Twelve families from the already missionized native peoples of what is now Sonora and Sinaloa were brought in to establish the Pueblo de Los Angeles in 1781, near the Los Angeles River in what is now downtown Los Angeles. They were given land tools for successful agricultural production, allowing a higher rate of profitability (Jones 2018; Starr 2015).

The Gabrielino were forcefully integrated into Mission San Gabriel. The Gabrielino worked as farmers or craftsmen or grazing herds in the valley. Integration devastated the Native American groups through the introduction of diseases to which they had no immunity and through the loss of traditional lifestyles. The Spanish period began a decline in 1821, when Mexico gained independence from Spain and subsequently secularized the missions (Bean and Smith 1978; McCawley 1996; Miller 1991).

Mexican Rancho Period (1821–1848)

During the Spanish and subsequent Mexican periods, ranchos were a concession-granting system that awarded many military officers with large tracts of land for settlement and raising livestock. In 1821, the Mexican government closed the missions, and former mission lands were granted to retired soldiers and other Mexican citizens. Much of the land along the coast and in the interior valleys became part of Mexican ranchos used primarily as cattle ranches (Robinson 1948). In 1833, the government required land be set aside for each Native American family. But the requirement was quickly brushed aside by Californios who, with the help of those in power, acquired the church lands as grants. Native peoples were forced to work on the rancheros.

The ranchos established land-use patterns still used today. Rancho boundaries became the basis for California's land survey system and are found on modern maps and land titles. The rancheros (rancho owners) patterned themselves after the landed gentry of New Spain, primarily raising cattle or sheep (Robinson 1948).

The Project area is within a portion of land known as Rancho Cañada de Los Nogales, meaning “canyon of the walnut trees.” It was established in 1844, when it was granted to José Maria Aguilar by Governor Manuel Micheltorena (Hoffman 1862). Aguilar was a Los Angeles official. His son, Cristobal Aguilar, would later become mayor of Los Angeles (Chaves 1999). In 1853, the land was sold to Lewis C. Granger, a lawyer native to Ohio who came to Los Angeles only three years prior. Granger traded the Rancho in 1854, to J.D. Hunter in exchange for Hunter’s home. Granger then bought 2,700 acres of Rancho San Rafael along the Los Angeles River from Verdugos. J. D. Hunter came to California from Kentucky in 1847. He was a Captain of Company B in the Iowa Volunteers, known as the Mormon Battalion. Hunter was discharged soon after he came to California and then posted at the San Luis Rey Mission after being appointed a U.S. Indian agent for Southern California. Prior to his arrival in Los Angeles, he resided in a Mormon settlement of San Bernardino until its abandonment. In Los Angeles he became a brick manufacture. Hunter owned portions of the adjacent Ranchos and sold Rancho Cañada de Los Nogales in 1882 to local developers (Vurtinus 1979).

American Period (1848–Present)

In 1848, the Treaty of Guadalupe Hidalgo, which ended the Mexican-American War (1846–1848), marks the beginning of the American period. In 1850, California became the 31st state in the American Union. In the late nineteenth century, droughts decimated the cattle industry in Southern California, which resulted in the purchase of many of the ranchos by American investors (Cleland 1941). The Los Angeles & San Pedro Railroad was completed in 1869. It was the first railway built in Southern California (Hoyt 1953; Robinson 1978).

On February 18, 1850, the County of Los Angeles was established as one of the 27 original counties in California. The City of Los Angeles grew exponentially in the late nineteenth and early twentieth century. The urban downtown sprawled outward incorporating much of the San Fernando Valley, major portions of the Los Angeles Basin, and parts of the Rancho Palos Verdes peninsula (Fogelson 1993:226–227). After World War II, when much of the Los Angeles Basin began to develop into dense residences and commercial areas for a burgeoning post-war economy. The Los Angeles basin has become a center for intensive and large-scale industry, logistics and warehousing, and petroleum development. Continued growth led to the formation of new communities and counties, including Orange County, which broke away from Los Angeles County on March 11, 1889.

3.5.1.4 Historic Overview of the Taylor Yard

The Project area is located within the northwestern portion of the historic Taylor Yard, one of several Southern Pacific Railroad yards that were situated along the Los Angeles River.

The first Southern Pacific Railroad line to Los Angeles was completed in 1876, connecting the city to San Francisco via the Glendale Narrows. The original rail alignment ran adjacent to San Fernando Road into downtown Los Angeles. The company's first passenger station, freight depot, and classification yard, known as River Station, was located at North Spring Street, north of West College Street, within present-day Chinatown (now the site of the Los Angeles State Historic Park). The classification yard could originally hold as many as 225 freight cars. It was later relocated in the early 1900s almost 2.5-miles north of River Station and then expanded in the 1910s to ten tracks totaling 21,000 feet spread across both sides of the main line. In 1914, flooding along the Los Angeles River greatly damaged the Southern Pacific train yard. Following the 1914 floods, Southern Pacific began a major overhaul of their classification yard, building a new earthen levee along the river's east bank. 900,000 yards of earth was imported onto the site to level the ground between the Pacific Fruit Facility and the main line, before adding 47,000 feet of track (Bevil and Dallas 2004).

A rapid increase in Los Angeles rail traffic after World War I motivated Southern Pacific to make a number of operational changes. In 1925, the company relocated its entire Los Angeles freight handling operations from River Station to Taylor Yard. The new classification yard was named after its previous owner, J. Hartley Taylor—an influential Los Angeles businessman and owner of the Taylor Grocery and Taylor Milling Company. Taylor had purchased the land in the 1890s, establishing a farm at the site that later included a grocery store as well as mill and grain storage facilities (Bevil and Dallas 2004).

Taylor Yard originally extended approximately 2-miles on the east bank of the Los Angeles River between Arvia Street and the present-day Glendale Freeway. The northern portion of the yard was originally occupied by approximately 15 tracks which widened out to around 20 tracks south of Division Street. There were also a number of warehouses and operation buildings located between Division Street and Elm Street, adjacent to the river. It was at Taylor Yard where Southern Pacific introduced several modern railroad infrastructure advancements, the most notable of which was the "hump-based" classification system. The system operated using small switch locomotives that shoved strings of freight cars to the top of an artificially created eight-foot-high hillock or "hump that were then allowed to roll down the opposite side to prearranged tracks. The hump at Taylor Yard was located west of Macon Street. The small switch locomotives were manned by car riders who used brake wheels to slow their descent. The cars were then rolled into a “classification bowl,” where they were assembled into “consists ” (Bevil and Dallas 2004).

Despite the Great Depression, Southern Pacific continued to expand and improve Taylor Yard in the 1930s. The railroad constructed a new roundhouse, for maintenance and repair of the steam locomotives, and divisional shop facility. Due to the efforts to build up the levee after the 1914 flood, the site sat above the river’s natural flood plain. Flooding in 1938 mostly spared the yard; however, because of the 1938 flood, the city soon embarked on one of its largest infrastructure projects, the channelization of the Los Angeles River. The riverbank to the west of Taylor Yard was subsequently reconfigured within a permanent channel and encased with concrete by the mid-1950s. The fill material used to construct the channel was placed on undeveloped portions of the north end of Taylor Yard. Following World War II, Los Angeles emerged as the West Coast’s primary manufacturing center and leader of the defense and aerospace industries in the United States.

The resulting growth in local industries and transition from steam to diesel-electric rail engines spurred Southern Pacific to upgrade Taylor Yard beginning in 1949. The company expanded to twenty-five receiving tracks, upgraded the hump to include pneumatically controlled retarders, and expanded the roundhouse and engine repair facilities to maintain the newer, larger, and heavier locomotives (Bevil and Dallas 2004). Included in the 1949 modernization, the old Taylor Yard office was replaced with a new structure near Fletcher Avenue at the yard’s north end, in what is now called the Bowtie section (Mullaly and Petty 2002).

Southern Pacific began to slowly phase out operations at Taylor Yard after the completion of a modern automated freight classification yard at West Colton in 1973. For 12 years, Taylor Yard was used for engine and car repair before finally closing the yard in 1985. Southern Pacific prepared the northern portion of Taylor Yard for sale, demolishing buildings, and structures as well as remediating contaminated soil. Southern Pacific was sold to Union Pacific in 1996 in parcels for other development (Mullaly and Petty 2002). The parcel that Union Pacific sold was to Los Angeles for the Metrolink. It was this sale that launched the extensive public effort to reserve the bulk Taylor Yard for public use as a park and greenspace. A total of 40 acres of the former yard were subsequently acquired by the California Department of Parks and Recreation in December 2001.

3.5.2 Environmental Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?

Finding: Less Than Significant Impact With Mitigation Incorporated

Stantec conducted a cultural resources Phase I study on behalf of The Nature Conservancy to evaluate potential cultural resources impacts associated with the Project. The study attached as Appendix C included a records search, review of historical United States Geological Survey (USGS) maps and aerial imagery, and an intensive-level pedestrian survey of the Project site.

The Project site makes up the northern portion of the Bowtie Parcel (APN: 5442-002-914, 5442-002-825), which was historically part of the Taylor Yard, a Southern Pacific Railroad service railway station and classification yard. Southern Pacific occupied Taylor Yard from 1925 through 1985, after which time almost all the buildings and structures related to the site's railroad use were demolished.

The Phase I study revealed that the historical features of Taylor Yard remain within the APE, including building foundations, a railroad sign, and an isolated railroad spike. These remains are likely potential contributors to a proposed Taylor Yard Historic District, the boundary of which extends beyond that of the Project area. No other historic-era cultural resources were identified, and no prehistoric-era cultural resources were identified during the survey.

Taylor Yard is being evaluated by California State Parks for its potential eligibility for listing in the CRHR or NRHP. It is seemingly important to local regional history and contained several pieces of infrastructure that may have been critical to the development of the Los Angeles basin. A full investigation and evaluation of Taylor Yard has yet to determine its historical significance. With further research it may be determined that the newly recorded site, R220803-74-01 which would be partially demolished as part of the Project, may have a significant historical association with the yard. Whether the components of the site are associated with any facilities that characterized the yard's technological achievements or primary operations is unknown. However, they do exemplify ongoing developments within the yard during the mid-20th century. The native sediment of the general area consists of unconsolidated alluvial sediments along the Los Angeles River. The background research, historical maps, and aerial images of the Project area indicate extensive ground disturbance starting as early as 1914 and well into the 1940s. The Project area was entirely paved, and buildings had been constructed by the 1960s, and were demolished by 1988. The entire Project area is highly disturbed and has been mechanically altered several times throughout the 20th-century, which has significantly undermined the integrity of the R220803-74-01.

The built-environment remains observed on the surface and the site's history suggest potential for presence of buried historic-era features related to the Taylor Yard as no soil remediation occurred in these areas. The built-environment remains should not affect the Project in terms of construction and design planning. For purposes of the CEQA analysis, Taylor Yard is conservatively assumed eligible for listing in the CRHR.

Given that the construction work has the potential to significantly impact buried archaeological components associated with Taylor Yard, the Project could cause a substantial adverse change in the significance of a historical resource. Mitigation Measures CR-1, CR-2, and CR-3 presented below shall be required to reduce potential impacts to historical resources to less than significant with mitigation incorporated.

Mitigation Measures

CR-1 Worker Environmental Awareness Program: Prior to construction activities, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (qualified archaeologist) shall conduct cultural resources Worker environmental Awareness Program (WEAP) training for all construction personnel. Construction personnel shall be informed of the proposed procedures for treating cultural resources that may be encountered during construction activities.

CR-2 Archaeological Monitoring During Construction: A qualified archeological monitor (working under the direct supervision of a qualified archaeologist meeting the Secretary of the Interior's Professional

Qualifications Standards for archaeology) shall be present to monitor all ground-disturbing activities associated with the Project.

The archaeological monitor shall be empowered to redirect construction activity in the event that archaeological resources are encountered, for the purposes of documenting the resource for evaluation by a qualified archaeologist. The archaeological monitor shall keep daily logs and provide updates to TNC upon request. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring, which shall be submitted to TNC and California State Parks for review prior to final submittal to the South Central Coastal Information Center at California State University, Fullerton.

CR-3 Protection of Encountered Archaeological Resources: If a potentially significant archaeological resource is encountered, it shall be evaluated by a qualified archaeologist in coordination with a California State Parks cultural resources specialist. If the resource is determined to be significant, appropriate avoidance, site capping (burial), creation of conservation easements, and/or data recovery shall be implemented in accordance with Secretary of the Interior’s Standards to bring the potential impact to that resource to levels less than significant.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Finding: Less Than Significant Impact With Mitigation Incorporated

Please refer to the response to question a) above.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Finding: Less Than Significant Impact

The potential to disturb any human remains is low because the majority of the Project site has been previously disturbed. In the event human remains are encountered during construction, State Health and Safety Code Section 7050.5 requires that no further work shall continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98. The County Coroner must be notified within 24 hours of the discovery, and within two working days of notification of the discovery shall make such a determination. If the County Coroner determines that the remains are or are believed to be Native American, the County Coroner shall notify the NAHC in Sacramento within 24 hours. In accordance with Section 5097.98 of the California Public Resources Code, the NAHC must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the County Construction Engineer, the treatment and disposition of the human remains. Considering the previously disturbed nature of the Project site and regulatory requirement related to discovery of human remains summarized above, potential impacts would be less than significant.

3.6 ENERGY RESOURCES

ENERGY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Environmental Setting

Los Angeles Department of Water and Power (LADWP) is the electricity provider for the Project area, including the proposed Project site, providing power to 1.5 million customers in Los Angeles and the Owens Valley. Renewable energy accounts for 30 percent of the LADWP's power resources, including biomass, geothermal, small hydroelectric, solar power and wind. The remaining power resources include natural gas, nuclear power, large hydroelectric, coal and other sources. LADWP electrical power resources produce a total capacity of over 7,8800 megawatts. The typical residential customer uses about 500 kilowatt hours per month, with business and industry consuming about 70 percent of the electricity in the City (LADWP, 2020).

First established in 2002 under Senate Bill 1078, California Renewable Portfolio Standards require retail sellers of electric services including LADWP to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030.

3.6.2 Environmental Impact Analysis

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

<u>Finding: Less Than Significant Impact</u>

The Project would include the use of fuels such as gasoline and diesel in conventional off-road construction equipment and on-road vehicles during the construction phase. The Project would additionally include the use of electricity associated with operating the dry-weather flow and stormwater treatment system as well as gasoline and/or diesel fuel associated with vehicles and handheld equipment for facility maintenance activities. The use of these energy resources would be minor in nature compared to the availability of resources and the Project does not include a component that would result potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation. Potential impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Finding: Less Than Significant Impact

Electricity necessary to operate the Project would be provided by LADWP. LADWP is subject to the State of California's Renewable Portfolio Standard related to the provision of renewable energy resources. The Project would not include the generation of energy resources and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Potential impacts would be less than significant.

3.7 GEOLOGY AND SOILS

GEOLOGY AND SOILS **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

3.7.1 Environmental Setting

The project property is located near the eastern edge of the channelized Los Angeles River in an area colloquially known as the Glendale Narrows, a relatively steep-sided portion of the river's alluvial plain bordered by the Elysian Hills to the west and the Repetto Hills to the east. As described by previous studies that are further discussed in Appendix E (Removal Action Work Plan), the valley fill is relatively coarse near its contact with underlying bedrock; sediments encountered during the various site investigations are finer-grained, with interbedded silty sand and fine-grained sand the most prevalent sediment type in the shallow subsurface.

Unconfined groundwater was encountered during previous site studies at approximately 33 feet below ground surface; the direction of groundwater flow in the study area was determined to be to the south-southeast, similar to the trend of the valley and the flow direction of the Los Angeles River.

The nearest known geological fault, the Raymond Fault, is located approximately 0.75 miles north of the Project site (City of Los Angeles, 2023a). The Project site is located within a liquefaction zone City of Los Angeles, 2023b). The Project site is not located within a landslide zone (City of Los Angeles, 2023c).

3.7.2 Environmental Impact Analysis

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

I. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

II. Strong seismic ground shaking?

III. Seismic-related ground failure, including liquefaction?

IV. Landslides?

Finding: Less Than Significant Impact

The Project site is not located within a Alquist-Priolo Fault Zone. The City of Los Angeles is within a seismically active region and the Raymond Fault is located approximately 0.75 miles north of the Project site. A rupture of the Raymond or other regional fault could cause ground shaking at the Project site. Liquefaction occurs when groundwater is forced out of the pores of soil as it subsides. This excess water momentarily liquefies the soil, causing an almost complete loss of strength. If this layer is at the surface, its effect is much like that of quicksand for any structure located on it. If the liquefied layer is in the subsurface, the material above it may slide laterally depending on the confinement of the unstable mass. According to the City of Los Angeles GeoHub, the Project site is within a liquefaction area but is not located within landslide zone.

The Project is limited to construction and operation of a green open space with native habitat and does not include habitable structures. The Project would be constructed in accordance with building code specifications required by the City of Los Angeles. Compliance with these requirements would reduce potential adverse impacts from an earthquake and liquefaction to less than significant. The Project site is ns not subject landslide hazards. Therefore, Project impacts from seismic-related ground failure, including liquefaction or landslides would be less than significant.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Finding: Less Than Significant Impact with Mitigation Incorporated

Construction of the Project includes activities such as grading that have the potential to result in substantial soil erosion and loss of topsoil. However, soil disturbances during construction would be managed through the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), as required by State Water Resources Control Board Order No. 2009-0009-DWQ, as amended. SWPPPs must include a range of Best Management Practices (BMPs) to reduce soil erosion such as minimizing soil disturbances, temporary soil stabilizers, temporary sediment control, wind erosion control, tracking control, non-stormwater management, waste management and materials pollution that substantially reduce the potential for soil erosion. Mitigation Measure BIO-3 which includes best management practices to reduce soil erosion would be implemented during construction to reduce potentially significant impacts to less than significant with mitigation incorporated.

Operation of the Project includes establishing and maintaining native habitat that would reduce the potential for soil erosion compared to existing site conditions that consists of bare and exposed soil surfaces. These measures and design features would reduce the potential for substantial soil erosion or the loss of topsoil impacts to less than significant during Project operation.

Mitigation Measures

BIO-3 Implement Best Management Practices

c) Would the project be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Finding: Less Than Significant Impact

Please refer to the response to question 3.7.2(a).

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Finding: Less Than Significant Impact

Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell with repeated changes in the moisture content. While expansive soils could be present at the Project site, the Project does not include the construction and operation of habitable structures. Additionally, adherence to the City of Los Angeles Building and Grading Codes are expected to be sufficient to reduce impacts from expansive soil-related hazards to less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Finding: No Impact

The Project does not include the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Finding: Less Than Significant Impact With Mitigation Incorporated

Appendix D includes the results of a paleontological resource investigation conducted for the Project. The paleontological resource investigation consisted of a museum records search from the Natural History Museum of Los Angeles County of the Project area and vicinity, as well as a review of the results of geotechnical studies conducted on the site (Geotek 2021, Converse Consultants 2022), the most recent geologic mapping, and relevant scientific literature. This research was used to assign paleontological potential rankings of the Society of Vertebrate Paleontology (2010) to the geologic units present in the Project area, either at the surface or in the subsurface. The results of this assessment indicate that the surface of the Project area consists of alluvial fan sediments with low-to-high paleontological potential, increasing with depth, likely underlain by the Puente Formation, with high paleontological potential, at an undetermined depth.

Currently available Project plans do not include complete specifications for depth or type of ground disturbance but do include stormwater vaults buried at depths of up to 33 feet below grade. Ground disturbance that occurs into geologic units with high paleontological potential may encounter paleontological resources. Younger surficial sediments (alluvium, lacustrine, eolian, etc.) generally have low potential to preserve fossil resources due to their age. However, sediments increase in age with depth and these surficial sediments often overly older units that have higher paleontological potential. Due to the presence of surficial alluvium (sand) sediments and lack of fossil localities recorded at shallow depths near the Project site, paleontological resources are not expected to be encountered in excavations into surficial sediments. For purposes of this analysis, it was assumed that depths of 10 feet below ground surface is a conservatively reasonable threshold from low to high potential sediments and impacts to paleontological resources could be potentially significant. Because proposed excavations extend beyond the 10 foot depth threshold for high potential sediments, impacts to paleontological resources are potentially significant. Mitigation Measures GEO-1 through GEO-3 shall be implemented during Project construction to reduce potential paleontological resources impacts to less than significant with mitigation incorporated.

Mitigation Measures

GEO-1 Paleontological Monitoring and Mitigation Plan: A paleontologist meeting professional standards of the Society of Vertebrate Paleontology (2010) shall be retained as the project paleontologist to oversee all aspects of paleontological mitigation, including the development and implementation of a

Paleontological Monitoring and Mitigation Plan (PMMP) tailored to the Project plans that provides for paleontological monitoring of earthwork and ground disturbing activities into undisturbed geologic units with high paleontological potential to be conducted by a paleontological monitor meeting industry standards (Murphey et al. 2019). The PMMP should also include provisions for a Workers' Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of paleontological resources during construction, to be delivered by the paleontological monitor to the construction crew prior to the onset of ground disturbance. As the Project is on California State Parks lands, a permit shall be required from California State Parks for this work.

GEO-2 Paleontological Monitoring During Construction: Paleontological monitoring shall be conducted by a qualified paleontological monitor for ground disturbance that exceeds 10 feet in depth across the Project area. The project paleontologist may reduce the frequency of monitoring should subsurface conditions indicate low paleontological potential.

GEO-3 Management of Paleontological Resources: Should a potential paleontological resource be identified in the Project area, whether by the monitor or a member of the construction crew, work shall halt in a safe radius around the find (usually 50 feet) until the Project paleontologist can assess the find and, if significant, salvage the fossil for laboratory preparation and curation at the Natural History Museum of Los Angeles County.

Based on the findings of the paleontological resources investigation and the implementation of the above mitigation activities, the proposed Project would have a less than significant impact with mitigation incorporated.

3.8 GREENHOUSE GASES

GREENHOUSE GAS EMISSIONS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Environmental Setting

Global warming is the observed increase in the average temperature of the Earth's surface. The effects of increased greenhouse gas concentrations in the atmosphere may contribute to global warming. The major Greenhouse Gases (GHGs) are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

GHGs in the atmosphere absorb solar radiation reflected by the earth, which leads to warming of the atmosphere. GHGs also radiate energy both upwards toward space and downward to the surface of the earth. The downward direction of GHGs radiation is commonly called the "greenhouse effect."

Most GHGs can be produced through biogenic (natural) and anthropogenic (human-caused) processes. Biogenic sources include the combustion of biological material in forest fires, fermentation, decomposition or processing of biologically based materials. Some of the main sources of GHG due to human activity are the burning of fossil fuels, agricultural activities, and the use of chlorofluorocarbons (CFCs) in refrigeration and fire suppression systems.

Global Warming Potential (GWP) is a measure of how much a GHG contributes to global warming relative to the heat contributed by a similar mass of CO_2. CH_4 and N_2O have GWP of 21 and 310 times that of CO_2, respectively. For this analysis, GHGs other than CO2 were scaled to a single factor to determine the equivalent amount of CO_2 (CO2e) for each gas. For CO_2, the scaling factor is 1.0. The scaling factors for CH_4 and N_2O are 21 and 310, respectively.

3.8.2 Environmental Impact Analysis

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

<u>**Finding: Less Than Significant Impact**</u>

Construction activities associated with the Project would require the operation of on-road vehicles and conventional off-road construction equipment that would emit GHGs in the form of CO_2, CH_4, and N_2O from engine exhaust. Operation phase emissions of GHGs would be primarily limited to exhaust from on-road vehicles associated with visitor use and maintenance personnel as well as indirect emissions from utility use.

SCAQMD has proposed a “bright-line” screening level threshold of 10,000 metric tons/year CO_2e for industrial land use types. Projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than significant impact on GHG emissions. SCAQMD’s guidelines for analyzing a project’s GHG impacts is to amortize project emissions over a 30-year period, add them to annual operation phase emissions and compare the emissions to the 10,000 metric tons/year CO_2e threshold of significance level to determine significance (SCAQMD, 2008b).

GHG emissions for the Project were estimated using the CalEEMod. Detailed GHG emissions estimates for the Project are included in Appendix A (Project Emissions Estimates). Table 13, below, presents a summary of the estimated total GHG emissions that would result from Project implementation.

Table 13 Total Estimated Project GHG Emissions

Project Phase	**Total Metric Tons CO_2e**
Construction Emissions (total)	516
Construction Emissions (amortized over 30 years)	17
Operation Emissions (annually)[1]	50
Total Project Emissions	**67**
Interim SCAQMD Threshold	10,000
Project Emissions Exceed SCAQMD Threshold?	**No**

As shown above in Table 13, the Project would result in a total estimated 67 metric tons of CO_2e per year when construction emissions are amortized over 30 years and added to operation phase emissions in accordance with SCAQMD guidance. The 67 metric tons of CO_2e emissions is below the 10,000 metric tons CO_2e significance threshold, and therefore, the Project would not generate greenhouse gas emissions, either directly or indirectly, that would have a substantial adverse effect on the environment. This impact would be less than significant, and no mitigation measures are warranted.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Finding: Less Than Significant Impact

The State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006, signed on September 27, 2006, to further the goals of Executive Order S-3-05 (Health and Safety Code, S38500 et seq.). AB 32 requires CARB to adopt Statewide GHG emissions limits to achieve Statewide GHG emissions levels at the same levels they were atmospherically in 1990 by the year 2020. A longer-range goal requires an 80% reduction in GHG emissions from 1990 levels by 2050. CARB adopted the 2020 Statewide target and mandatory reporting requirements in December 2007 and a Statewide scoping plan in December 2008 (the AB 32 Scoping Plan). SB 32, signed on September 8, 2016, expands on the mandate of AB 32 requiring CARB to ensure that State GHG emissions are reduced to 40 percent below the 1990 emission level by year 2030. Section 38566 is added to the current Health and Safety Code, which states “the State board shall ensure that Statewide greenhouse gas emissions are reduced to at least 40 percent below the Statewide greenhouse gas emissions limit no later than December 31, 2030”.

The Project does not include stationary sources of GHG emissions and is not subject to compliance with AB 32’s cap-and-trade program. In 2019, the City adopted the Sustainable City pLAn, “L.A.’s Green New Deal,” which is the first four-year update since the Sustainable City pLAn was first released in 2015. The Sustainable City pLAn is a comprehensive and actionable directive from Mayor Eric Garcetti to improve the environmental, economic and equitable conditions in the City, which would be used as a tool for Mayor Garcetti to manage the City and establish visions, goals and metrics for City departments. A key principle of the Sustainable City pLAn includes a commitment to the Paris Climate Agreement and to act urgently with a scientifically-driven strategy for achieving a zero carbon grid, zero carbon transportation, zero carbon buildings, zero waste and zero wasted water. In addition, the Sustainable City pLAn accelerates targets for the use of renewable energy and reduction of municipal GHG emissions. Importantly, the Sustainable City pLAn accelerates the City’s emission reduction targets – described as the 2019 Green New Deal Pathway – which calls for cutting GHGs to 50 percent below 1990 levels by 2025; 73 percent below 1990 levels by 2035; and becoming carbon neutral by 2050. By following the 2019 Green New Deal Pathway, the City would cut an additional 30 percent in GHG emissions above the goals established in the 2015 Sustainable City pLAn and ensures that the City stays within its carbon budget between now and 2050.

The proposed Project consists of beneficial reuse of stormwater to create and sustain wetlands and upland vegetation that would sequester carbon. Construction of the Project would not cause GHG emissions in excess of applicable thresholds. In addition to Project implementation being compatible with the overall GHG reduction goals of the 2019 Sustainable City pLAn, it would further be compatible with other aspects of the Sustainable City pLAn related to environmental justice, local water, and urban ecosystems and resilience goals (City of Los Angeles, 2019).

Considering the above, as well as fact that the Project’s GHG emissions would be below SCAQMD’s thresholds of significance, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, this impact would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 Environmental Setting

Site investigation and response actions at Taylor Yard were historically initiated and managed by the Southern Pacific Transportation Company. Following their merger with UPRR in 1996, UPRR became the party responsible for directing response activity; reports and correspondence were subsequently addressed to them. The oldest document posted to the DTSC Envirostor portal is the “Site Investigation Report” by Environmental Resources Management (ERM). It is important to note that the Envirostor portal containing the oldest project-property documentation is that created for UPRR Parcel G-2; documentation up to the 2003 acquisition of the G-1 Bowtie Parcel by California State Parks addresses both G-1 and G-2 in their pre-divided state. More recent project-property documentation is loaded to the Envirostor portal for “G-1.”

ERM conducted site assessment and remediation work for UPRR to prepare G-1 for acquisition by California State Parks. As documented in the August 2003 “Soil Excavation and Preliminary Endangerment Assessment Workplan” and the November 2003 “Removal Action Workplan” ERM advanced borings and collected soil samples for the purposes of pre-sale G-1 characterization. This site assessment informed the

2003 RAW, which proposed excavation and removal of soil in four specific sub-areas of which one, referred to by ERM as Area 1, was located near the northern tip of the TNC Demonstration Project. The basis for the excavation in Area 1 was the presence of arsenic in soil in excess of background levels. ERM identifies no feature or use in the vicinity of Area 1 or the Demonstration Project boundaries as a perceived source of contamination.

More recent episodes of site characterization have been completed by Leighton and Associates (Leighton) and Weston Solutions (Weston). Leighton's 2015 sampling points were distributed across the G-1 parcel; seven sampling locations were near the Project footprint but none were actually advanced on the Project property itself. Weston's work, conducted under a USEPA Brownfield Grant, focused exclusively on the Project area; their findings are documented in the 2020 Final Phase I/II Investigation Targeted Brownfield Assessment report.

Data gap sampling was conducted on March 9 and 10, 2022 in accordance with the Amicus October 2021 "Final Work Plan for Data Gap Soil Sampling." As described in the workplan, the sampling plan was designed to evaluate the interval between the Weston surficial samples and five feet below grade. Citadel EHS (Citadel) implemented the workplan, collecting samples adjacent to each prior Weston sampling location at depths of two, four and five feet below ground surface.

Both the 2020 Weston and 2015 Leighton investigations describe the detection of hydrocarbon compounds and lead in near-surface soil at concentrations exceeding natural background levels and, in some of their samples, at concentrations exceeding regulatory agency (RWQCB and EPA) screening levels. Results of analysis of the 2022 Citadel sampling event show no concentrations of target analytes above the conservative regulatory residential screening levels at any interval tested (two, four or five feet below ground surface).

Concentrations and distribution of hydrocarbons and lead appear to be consistent with deposition from an aerial source, likely by-products of fuel combustion (diesel and leaded gasoline by highway traffic, diesel and coal by railroad engines). Results of analysis showed the lower boundary of contamination in areas identified by Weston to contain elevated concentrations of contaminants of concern as between ground surface and two feet bgs. The physical nature of the contaminants (solids) and the nature of their deposition suggest that concentrations likely attenuate rapidly with depth and in the locations detected do not exceed conservative screening levels uniformly from ground sur-face to the two-foot Citadel sampling horizon.

3.9.2 Environmental Impact Analysis

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Finding: Less Than Significant Impact

Some materials associated with construction are considered hazardous because they are flammable and/or may contain toxic compounds, such as volatile organic compounds and heavy metals. Project construction would use gasoline, diesel fuel, hydraulic oils, and similar materials that may include hazardous characteristics. All hazardous materials and wastes associated with the proposed Project construction would be handled, transported, and disposed of in compliance with all applicable federal, state, and local laws, regulations, and guidelines. Safety Data Sheets would be made available at the construction-site for all workers as required by OSHA.

No acutely hazardous materials would be stored or used on location or at staging yards during construction. Acutely hazardous wastes are wastes that would cause death, disabling personal injury, or serious illness if exposed. These wastes are more hazardous than ordinary hazardous wastes. Minor spills or releases of ordinarily (as opposed to acutely) hazardous materials could occur due to improper handling and/or storage practices of hazardous materials during construction activities.

The proposed Project would disturb more than one-acre of land, therefore a stormwater pollution prevention plan (SWPPP) would be prepared and implemented for Project construction, as required by the Construction General Permit Order (SWRCB Order No. 2009-009-DWQ). The SWPPP shall contain Best Management Practices (BMPs) to address material handling and hazardous material management, as required by the Construction General Permit. BMPs identified in the proposed Project SWPPP would be implemented during Project construction to minimize the risk of an accidental release of hazardous materials and to provide the necessary information for emergency response.

As described in Section 3.9.1, results of site testing confirmed the presence of common urban contaminants (primarily lead and petroleum hydrocarbons) in several samples of shallow soil collected within the Project site. Contaminant concentrations when compared to conservative screening thresholds applied to residential land uses were high enough to warrant removal of shallow soil prior to the development of the demonstration wetlands and ancillary facilities. A Removal Action Workplan (RAW) that details the results of the environmental assessment and proposed soil remediation component of the Project was prepared and submitted to California Department of Substances Control consistent with California Health and Safety Code Section 25323.1 (Amicus, 2023). The RAW, which is included with this IS as Appendix E recommends removal of the shallow soil across the entire Project footprint to a depth of 2 feet below ground surface.

Shallow soil would be removed using conventional excavation equipment (i.e., grader, loader, and excavator) and either directly loaded into trucks or temporarily stockpiled with appropriate permit(s) onsite then loaded into trucks for transport to an offsite receiving facility for recycling or disposal. For purposes of analyzing potential environmental impacts associated with RAW implementation within this IS, it was conservatively assumed that up to the top two feet of soil at the Project site would be excavated and removed.

The activities and processes performed during the construction of the proposed Project have the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, including but not limited to fuel/hazardous material spills during construction activities. However, compliance with applicable regulations, including the CCR Title 22, 23, 26, & 27, 29 CFR 1910.119 and California Fire Codes CFR Title 24, impacts would be reduced to a less than significant level for the proposed Project to the public or the environment through the routine transport, use, or disposal of hazardous materials.

With adherence to the RAW and compliance with existing regulations, the proposed Project is not expected to create a significant hazard to the public or the environment through the transport, storage, use, or disposal of hazardous materials. The Project would additionally remove the impacted shallow soils thereby reducing future potential of public and environmental impact from the presence of hazardous materials compared to existing site conditions.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Finding: Less Than Significant Impact

See response to 3.9.2(b) above.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Finding: Less Than Significant Impact

The Project does not include an activity with the potential to result in hazardous or acutely hazardous emissions. There is no school located within one-quarter mile of the Project site, however, it is possible that trucks hauling exported soil to the yet to be determined receiving facility could pass within a quarter mile of a school. While these exported soils could contain lead and petroleum hydrocarbons that exceed residential land use screening thresholds, concentrations present are not expected to result in a hazardous waste characterization. Potential impacts would be less than significant.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Finding: Less Than Significant Impact

Please refer to the response to 3.9.2(b) above. Potential impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public or private airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Finding: No Impact

The Project site is not located within two miles of an airport. No impact would occur.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: Less Than Significant Impact

The Project does not include a component with the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Project would additionally be required to adhere to applicable regulations related to transportation of equipment and materials to and from the site. Potential impacts would be less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Finding: No Impact

According to Los Angeles County's Fire Hazard Severity Zone Map, the Project is not located within a designated wildland fire risk area (Los Angeles County, 2023). Additionally, the project does not include a component that has the potential to increase wildland fire risk. No impact would occur.

3.10 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows.	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.1 Environmental Setting

The Project is located in the Upper Los Angeles River Watershed Area, defined by Los Angeles County Municipal Separate Stormwater System Permit. The Project is located along Reach 6 of the Los Angeles River.

Groundwater beneath and around the Project area is inferred to contain contamination, namely the volatile organic compounds (VOC) trichloroethylene (TCE) and tetra-chloroethylene (PCE) migrating from source areas in the valley to the north (in and around the cities of Burbank and Glendale). Taylor Yard is included in the boundary of what is referred to as Area 4 of the San Fernando Valley Superfund Site (USEPA, 2008). No indication of a source of groundwater contamination on or near the Project area has been identified and none is believed to exist. Groundwater is not expected to be encountered during Project construction and operation of the Project does not include groundwater use.

3.10.2 Environmental Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Finding: Less Than Significant Impact

Construction of the Project would involve earth disturbing activities such as grading and excavations that have the potential during precipitation events to increase erosion or introduce petroleum hydrocarbons and/or lead from impacted shallow soils into the storm drain system or Los Angeles River resulting in a violation of a water quality standard.

The Project site is under the jurisdiction of the Los Angeles Regional Water Quality Control Board (RWQCB), which administers the National Pollutant Discharge Elimination System (NPDES) for construction projects resulting in the disturbance of one acre or more. As the Project site is approximately 3.3 acres in size, a NPDES permit would be required. State Water Resources Control Board Order No. 2009-0009-DWQ and the NPDES permit requires preparation and implementation of a SWPPP. SWPPPs must include a range of best management practices to reduce soil erosion such as temporary soil stabilizers, temporary sediment controls, wind erosion controls, vehicle track-out controls, waste management and materials pollution controls that substantially reduce the potential for soils and other pollutants to enter stormwater or adjacent water features such as the Los Angeles River.

Project operation would capture and treat dry-weather stormwater flows from a highly industrial and commercial area within the Upper Los Angeles River watershed area. The Project would address the primary and secondary pollutants of concern: bacteria (fecal coliform), copper (dissolved and total) and zinc (dissolved and total). Disinfection would be accomplished by a self-contained ultraviolet light disinfection system. No chemicals would be utilized on-site by any treatment equipment. The treatment equipment would collect some solids from the water. These solids would be located within the treatment equipment until such time as they can be removed by maintenance personnel. This material is non-hazardous and would be suitable for disposal in a landfill.

As the Project would only accept dry-weather flow and stormwater that would otherwise enter the Municipal Separate Storm Sewer System (MS4), there are no water discharge permitting triggers activated. The Project would be part of the MS4 infrastructure or a best management practice and would help the City of Los Angeles's MS4 permit compliance efforts detailed in the ULAR Enhanced Watershed Management Plan. Additionally, the requirements in Title 22 of the California Code of Regulations are not applicable to the Project's irrigation use, as the Project water does not contain domestic waste such as treated municipal wastewater.

While the created wetland would include a liner that would limit the potential for dry-weather flow and stormwater to percolate into the groundwater beneath, the quality of the treated water would not degrade groundwater quality should some percolation occur. The Project would additionally be consistent with the Safe, Clean Water Program as it would assist in achieving municipal separate storm sewer system (MS4) permit compliance, utilize Nature Based Solutions, and provide benefits to Overburdened Communities.

Considering the above, the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. As a result, potential impacts would be less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Finding: Less Than Significant Impact

The Project does not include the use of groundwater and would therefore have no impact on groundwater supplies. The Project entails creation of native wetland habitat and does not include the addition of large areas of impervious surfaces compared to existing site conditions. Therefore, the Project would not interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin and potential impacts would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would;

- **i. Result in substantial erosion or siltation on- or off-site;**
- **ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**
- **iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or**
- **iv. Impede or redirect flood flows.**

Finding: Less Than Significant Impact

All stormwater that falls on the Project site would sheet flow into the wetland for treatment and use. The Project does not include a component involving alteration of the course of a stream or river or substantial increases in impervious surfaces. Potential impacts would be less than significant.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Finding: Less Than Significant Impact

The Project site is not located in a 100-year flood plain (City of Los Angeles, 2023d). The Project site is additionally not located in a tsunami hazard area (California Department of Conservation, 2023) nor it is located in close proximity to a lake or similar body of water capable of producing a seiche. The Project would additionally remove the impacted shallow soils thereby reducing a source of potential water quality contamination compared to existing site conditions. Potential impact would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Finding: Less Than Significant Impact

The Project was approved for the Upper Los Angeles River subregion of Integrated Regional Water Management Plan (IRWMP) in August 2020. The Project has received support from the ULAR EWMP Watershed Management Group for its contribution towards the compliance efforts of the EWMP. The Project would result in improvements to stormwater quality prior to discharge to the Los Angeles River and would provide both ecological benefits through creation of wetland habitat and recreation/nature-based benefits to an Overburdened Community. The Project would additionally remediate impacted shallow soils thereby reducing a potential source of surface and/or groundwater contamination compared to existing site conditions. Potential impacts would be less than significant.

3.11 LAND USE AND PLANNING

LAND USE AND PLANNING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Environmental Setting

The Project site is located in the northwest portion of Assessor Parcel Number 5442002BRK in the City of Los Angeles (Project site), which is also referred to as the "Bowtie" parcel. Officially a part of Rio de Los Angeles State Park, the Bowtie parcel is an approximately 18-acre strip of land located on the east bank of the Los Angeles River in northeast Los Angeles. Historically, this property was part of Taylor Yard, the former headquarters of Southern Pacific Railroad. Once a bustling railyard and major local employer, Southern Pacific closed the facilities in the late 1980's and began parceling the land for future sale. After rail operations shut down, advocates, including nonprofit organizations, community groups, and government agencies, all worked to ensure the land found its way into public hands with a vision to revitalize 100 acres of the area into publicly owned park space. This collective vision is managed by the 100 Acre Partnership.

In 2003, California State Parks bought the property called G-1, which is now referred to as "the Bowtie" (due to its shape), with the intent of transforming the currently undeveloped industrial land into a safe and clean, vibrant public green space focused on nature conservation and restoration, education, and providing opportunities for passive recreation (California Department of Parks and Recreation, 2022). The Project site is zoned [Q]PF-1-CDO-RIO for Public Facilities in the Community Design Overlay and River Improvement Overlay. Surrounding areas are zoned industrial and residential with concentrated commercial areas. The nearest residences are approximately 600 feet southwest and 800 feet northwest from the Project site.

3.11.2 Environmental Impact Analysis

a) Would the project physically divide an established community?

Finding: No Impact

The Project site is zoned for Public Facilities in the Community Design Overlay and River Improvement Overlay. Surrounding the site in the north, east, and west are commercial buildings. The nearest residential land use is located approximately 600 feet southwest on the opposite side of the Los Angeles River. The Project does not include a component with the potential to divide an established community and no impact would occur.

b) Would the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Finding: Less Than Significant Impact

The Project is in Reach 6 on the Bowtie/G1 Parcel, the first of eight stages within the ARBOR Project (Area with Restoration Benefits and Opportunities for Revitalization), which aims to revitalize habitats along 11 miles of the Los Angeles River. The Project is consistent with the ARBOR Project Study, Safe Clean Water Program, and existing zoning. Potential impacts would be less than significant.

3.12 MINERAL RESOURCES

MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.12.1 Environmental Setting

Mining of sand and gravel began in Los Angeles around 1900 when concrete became popular as a building material. Extraction began in the Arroyo Seco and the Big Tujunga Wash. From 1920 to the present, the demand for sand and gravel has been spurred by construction associated with growth in California and the southwestern United States. Sand and gravel deposits follow the Los Angeles River flood plain, coastal plain and other water bodies and courses. Significant potential deposit sites have been identified by the state geologist. They lie along the flood plain from the San Fernando Valley through downtown. However, much of the area identified has been developed with structures and is inaccessible for mining extraction (City of Los Angeles Conservation Element, 2001). There are no known mineral resources recorded on the Project site. The closest prospect is inactive and located approximately 0.1 miles southwest of the Project site and was a past producer of sand and gravel (USGS 2022).

3.12.2 Environmental Impact Analysis

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

<u>Finding: No Impact</u>

There are no known mineral resources recorded on the Project site. The Project would not result in a loss of availability of a known mineral resource. No impact would occur.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

<u>Finding: No Impact</u>

The Project site land use is zoned for Public Facilities in the Community Design Overlay and River Improvement Overlay and no known mineral resources are recorded on the Project site. Therefore, the Project would not result in a loss of availability of a locally important mineral resource. No impact would occur.

3.13 NOISE

NOISE Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels.	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Environmental Setting

The decibel (dB) is the preferred unit used to measure sound levels utilizing a logarithmic scale to account for large ranges in audible sound intensities. A general rule for the decibel scale is that a ten dB increase in sound is perceived as a doubling of loudness by the human ear. For example, a 55 dB sound level will sound twice as loud as a 45 dB sound level. The average healthy person cannot detect differences of one dB whereas a five dB change is clearly noticeable.

Several sound measurement descriptors are used to assess the effects of sound on the human environment. These include the energy equivalent sound level (Leq,) which is the level of a constant sound that has the same sound energy as the actual fluctuating sound. It is similar to the average sound level. The day-night sound level, (Ldn,) is similar to the 24-hour Leq except that a ten dB penalty is added to sound levels between 10:00 pm and 7:00 am to account for the greater sensitivity of people to sound at night. The Community Noise Equivalent Level (CNEL) also places a weighted factor on sound events occurring in the evening hours. The L90 value is the sound level (L) that is exceeded 90 percent of the time and is often used to describe the background or residual sound level.

Acoustics is defined as the science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. Noise, on the other hand, is generally defined as loud, unpleasant, unexpected or undesired sound that disrupts or interferes with normal human activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The objectionable nature of sound is caused by its pitch or loudness. Pitch is the height or depth of a tone or sound wave, depending on the relative rapidity (frequency) of the sound vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear.

Intensity is a measure of the amplitude or height of the sound wave. Frequency describes the sound's pitch and is measured in Hertz (Hz), while intensity describes the sound's loudness and is measured in dB.

The dB is the preferred unit for measuring sound that indicates the relative amplitude (height) of a particular sound wave. The zero (0) on the decibel scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic scale. Thus, an increase of ten dB represents a ten–fold increase in acoustic energy, while a 20 dB increase is 100 times more intense, and a 30 dB increase is 1,000 times more intense. There is a direct relationship between the subjective noisiness or loudness of a sound and its intensity. Each ten dB increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. The A–weighted decibel (dBA) is a method of sound measurement, which assigns weighted values to selected frequency bands in an attempt to reflect how the human ear responds to sound. Definitions of common acoustical terms are summarized below in Table 14. The range of human hearing is from zero dBA (the threshold of hearing) to about 140 dBA which is the threshold of pain. Examples of noise and their dBA levels are shown in Table 15. In general, a three to five dBA change in community noise levels starts to become noticeable, while one to two dBA changes are generally not perceived. Quiet suburban areas typically have noise levels in the range of 40–50 dBA, while those along arterial streets are in the 50–60 dBA or greater range. Normal conversational levels are in the 60–65 dBA ranges.

In addition to the actual instantaneous measurements of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. To analyze the overall noise levels in an area, noise events are combined for an instantaneous value or averaged over a specific time period. The time–weighted measure is referred to as equivalent sound level and represented by).Leq The percentage of time that a given sound level is exceeded also can be designated as L10, L50, and L90. The subscript denotes the percentage of time that the noise level was exceeded during the measurement period. Namely, an L10 indicates the sound level is exceeded ten percent of the time and is generally taken to be indicative of the highest noise levels experienced at the proposed Project Site. The L90 is that level exceeded 90 percent of the time and this level is often called the base level of noise at a location. The L50 sound (that level exceeded 50 percent of the time) is frequently used in noise standards and ordinances.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within ±1 dBA. The data is then imported into computer sound models. These computer models are used to predict environmental noise levels from sources such as roadways and airports over a given area using equal sound level contours. The accuracy of the predicted models depends upon the distance the receptor is from the noise source and natural attenuation caused by structures and other sound barriers. The closer to the noise source, the greater is the model's accuracy (±1–2 dBA).

Since the sensitivity to noise increases during the evening and at night (because excessive noise interferes with the ability to sleep) 24–hour descriptors have been developed that incorporate artificial noise penalties that are added to quiet–time noise events. The CNEL is a measure of the cumulative noise exposure in a community during a 24–hour period. The Ldn is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three–hour period are grouped into the daytime period.

Noise sources occur in two forms: 1) point sources, such as stationary equipment, loudspeakers, or individual motor vehicles; and 2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of six dBA for each doubling of distance from the source to the receptor at acoustically “hard” sites and 7.5 dBA at acoustically “soft” sites (United States Department of Transportation [USDOT], Federal Highway Administration. For example, a 60 dBA noise level measured 50 feet from a point source at an acoustically hard site would be 54 dBA 100 feet from the source and 48 dBA 200 feet from the source. Sound generated by a line source typically attenuates at a rate of three dBA and 4.5 dBA per doubling of distance from the source to the receptor for hard and soft sites, respectively. Sound levels can also be attenuated by man-made or natural barriers. Solid walls, berms, or elevation differences typically reduce point and line source noise levels by five to ten dBA (USDOT, FHWA, 2006). Sound levels for a source may also be attenuated three to five dBA by a first row of houses and 1.5 dBA for each additional row of houses (T.M. Barry and J.A. Reagan, 1978).

Table 14 Definitions of Acoustical Terms

Terms	Definitions
dB, Decibel	Unit of measurement of sound level
dBA, decibel A-Weighted	A unit of measurement of sound level corrected to the A–weighted scale, as defined in ANSI S1.4–1971 (R1976), using a reference level of 20 micropascals (0.00002 Newtons per square meter).
A – Weighted Scale	A sound measurement scale, which corrects the pressures of individual frequencies according to human sensitivities. The scale is based upon the fact that the region of highest sensitivity for the average ear is between 2,000 and 4,000 Hz. Sound levels are measured on a logarithmic scale in decibels, dB. The universal measure for environmental sound is the A–weighted sound level, dBA.
Hz, Hertz	Unit of measurement of frequency, numerically equal to cycles per second.
Loudness	A listener’s perception of sound pressure incident in his ear.
L01, L10, L50, L90	The A–weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Leq, Equivalent Noise Level	Also called the equivalent continuous noise level. It is the continuous sound level that is equivalent, in terms of noise energy content, to the actual fluctuating noise existing at the location over a given period, usually one hour. Leq is usually measured in hourly intervals over long periods in order to develop 24–hour noise levels.
CNEL, Community Noise Equivalent Level	The CNEL is a measure of the cumulative noise exposure in the community, with greater weights applied to evening and night time periods. This noise descriptor

	is the equivalent noise level over a 24–hour period mathematically weighted during the evening and night when residents are more sensitive to intrusive noise. The daytime period is from 7:00 am to 7:00 pm; evening from 7:00 pm to 10:00 pm; and nighttime from 10:00 pm to 7:00 pm. A weighting factor of one dB is added to the measured day levels defined as 7:00 am to 7:00 pm, evening levels (7:00 pm to 10:00 pm) have a weighting factor of three and ten dB to the night time levels (10:00 pm to 7:00 am). The weighted levels over a 24–hour period are then averaged to produce the single number CNEL rating.
Ldn, Day/Night Noise Level	The same as CNEL except that the evening time period is not considered separately, but instead it is included as part of the daytime period. Measurements of both CNEL and Ldn in the same residential environments reveal that CNEL is usually slightly higher (by less than one dB) than Ldn due to the evening factor weighting.
Lmin, Lmax	The minimum and maximum A–weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Table 15 Typical Sound Levels Measure in the Environment

A–Weighted Sound Level in dBA	Outdoor Examples	Indoor Examples	Subjective Impression
130	• Jackhammer • Stock Car Races		
120	• Ambulance Siren • Leaf Blower (110 dBA) • Rock Concert (110 dBA) • Car Horn (110 dBA)	• Baby Crying on Shoulder (110 dBA)	
100	• Snowmobile • Lawnmower (96dBA) • Backhoe (75-95 dBA)		Very Loud

	• Pile driver at 50' (90-105 dBA)		
90	• Motorcycle at 25' • Propeller Airplane flyover at 1000' (88 dBA) • Diesel Truck at 50' @ 40mph (84 dBA)	• Shouted Conversation • Vacuum cleaner (60-85 dBA)	
80	• Car at 25' @ 65mph (77 dBA)	• Garbage Disposal • Ringing Telephone • Living Room Music or TV (70-75 dBA)	Moderately Loud
70		• Dishwasher (55-70 dBA) • Normal Conversation (60-65 dBA)	
60	• Air-conditioner at 100'	• Sewing Machine	
50		• Refrigerator	
40	• Quiet Residential Area		Quiet
20	• Rustling of Leaves	• Whispering at 5'	

3.13.2 Environmental Impact Analysis

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Less Than Significant Impact

The City of Los Angeles CEQA Thresholds Guide includes screening criteria that California State Parks has elected to utilize for this noise analyses (City of Los Angeles, 2006). The screening criteria indicate construction activities that occur within 500 feet of a noise sensitive use or between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on

Sunday may require additional analysis to determine the significance of potential impacts. Projects not meeting these criteria would be considered to have no significant construction noise impact.

The nearest sensitive noise receptor to the project site are residential land uses located approximately 650 feet west of the Project site. Project construction is not proposed between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time Sunday. Consequently, construction noise impacts would be less than significant.

Noise associated with operation of the Project would be limited to an enclosed pump for the water treatment system as well as minor maintenance with hand tools/small equipment and voices from public use of the green space during daytime hours. The highest operation phase noise levels are anticipated to be from a vacuum truck used to remove settled solids from the water treatment system. However, the duration of vacuum truck operation needed to remove the settled solids would be limited and expected to only occur on one day per month. Operation of the vacuum truck associated with Project maintenance would therefore not be expected to result in a substantial increase in ambient noise levels. Project operation does not include substantial noise sources that have the potential to result in substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project. Potential construction and operation noise impacts would be less than significant.

b) Would the project exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Finding: Less Than Significant Impact

Vibration refers to ground borne noise and perceptible motion. Typical sources of ground borne vibration are construction activities (e.g., blasting and pile driving). Project construction would not include activities such as blasting or pile driving that would cause excessive vibration. Operation of the Project does not include a component with the potential to generate excessive ground borne vibration. Potential impacts from ground borne vibration would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Finding: No Impact

The Project is not located within an airport land use plan. Consequently, the Project would not expose people to excessive airport noise. No impact would occur.

3.14 POPULATION AND HOUSING

POPULATION AND HOUSING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

The City of Los Angeles has a population estimate of 3,849,297 as of 2021 (USCB, 2021). The Project site is designated for Public Facilities Land Use and there are no residences on-site. The nearest residential zoned parcels are located approximately 600 feet southwest of the Project site. The purpose of the project is to enhance the wetland habitat and public recreation access along the Bowtie Parcel. Greenspaces such as the wetland habitat create a recreational and educational use for the community.

3.14.2 Environmental Impact Analysis

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

<u>Finding: No Impact</u>

The Project would not include new housing or businesses, nor does it extend roads or other infrastructure with the potential for unplanned population growth. The Project could result in the indirect construction of additional housing and commercial use as land use surrounding the Los Angeles River continues to de-industrialize with the removal of Taylor Yard. The new park space would benefit visitors both in the nearby community and outside of it. Regardless, a less than significant impact would occur as available land is limited in ability for redevelopment.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

<u>Finding: No Impact</u>

The Project site is designated for Public Facilities in the Community Design Overlay and River Improvement Overlay. Currently the Project site is a post-industrial landscape. Construction and operation of the Project would not cause displacement of people or housing, necessitating the construction of replacement housing elsewhere. Unhoused community members do not currently live on the Project site. No impact would occur.

3.15 PUBLIC SERVICES

PUBLIC SERVICES **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☒	☐	☐
v) Other Public Facilities?	☐	☐	☐	☒

3.15.1 Environmental Setting

Fire Protection

There are 114 Fire Stations organized into 14 Battalions in the City Los Angeles. Los Angeles Fire Department is a collective of 3,246 uniformed personnel and 353 professional support personnel. The closest department to the Location is Station 50 (LAFD, 2022) which is located approximately 0.7 miles north of the project site.

Police Protection

There are a total of 25 Police stations located in the City of Los Angeles. The closest station to the Project site is the Northeast Community Police station (LAPD, 2022) which is approximately 0.5 miles north of the Project site.

Schools

Los Angeles Unified School District is the 2nd largest public school district in the United States and has a total of more than 1,400 school and centers (FSD, 2022). The closest to the Project site is Cal Creative Learning Academy which is approximately 282 feet northeast from the project site.

Parks

There are 510 parks within the City of L.A. (DRAP, 2022). The closest one to the Project site is the Lewis MacAdams Riverfront Park and the Marsh Skate Park which is located approximately 631 feet southwest in distance from the Project site and across the Los Angeles River.

Other Public Facilities – Libraries

The City of Los Angeles additionally operates and maintains a range of other public facilities such as public transportation (metro, buses, subways), libraries, community centers, homeless shelters, and health clinics. The closest library to the Project site is the Silver Lake Brach Library located approximately .94 miles southwest. There is a railroad track that services Amtrak and Metrolink located about approximately 80 feet northeast of the Project site.

3.15.2 Environmental Impact Analysis

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i. Fire Protection

Finding: No Impact

Fire Protection is provided by the Los Angeles Fire Department. The Project would not introduce any new residences to the City or result in the need for additional new nor altered fire protection services, and would not alter acceptable service ratios or response times based on implementation of the wetland habitat/ stormwater pre-treatment facility, and therefore, no impact would occur.

ii. Police Services

Finding: No Impact

Police Protection is provided by the Los Angeles Police Department. The project would not introduce any new residences to the City. Therefore, the Project would not result in the need for additional new nor altered police protection services and would not alter acceptable service ratios or response times. No impact would occur.

iii. Schools

Finding: No Impact

The Project site is within the jurisdiction of the Los Angeles Unified School District. The Project would not introduce any new residence to the City of Los Angeles and does include a component with the potential to increase demand for school services. The Project could be accessed by schools in the area to provide No impact would occur.

iv. Parks

Finding: Less Than Significant Impact With Mitigation Incorporated

The Project includes public access and pathways that can serve as a recreational and educational benefit to the surrounding Overburdened Community. These improvements would be completed within the approximately 3.2-acre Project site, the potential environmental impacts of which have been analyzed within Sections 3.1 thru 3.21 of this IS/MND. Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, CR-1, CR-2, CR-3, GEO-1, GEO-2, GEO-3, TCR-1, and TCR-2 in the Project's Mitigation Monitoring and Reporting Program in Section 4 of this IS/MND shall be implemented to reduce the Project's potential environmental impacts to less than significant with mitigation incorporated.

v. Other Public Facilities – Libraries?

Finding: No Impact

The Project would not introduce any new residences to the City of Los Angeles. Therefore, the Project would not significantly impact the level of other public services or increase the need for other public facilities.

3.16 RECREATION

RECREATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☒	☐	☐

3.16.1 Environmental Setting

There are 591 Park and Recreation Facilities in Los Angeles including parks, community centers, pools, museums, tennis courts, garden centers, senior citizen centers (DRAP, 2022).The closest park to the Project site is the Lewis MacAdams Riverfront Park and the Marsh Skate Park which is located approximately 631 feet southwest of the Project site. .

3.16.2 Environmental Impact Analysis

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<u>Finding: Less than Significant Impact</u>

The Project would provide more recreational opportunities to the surrounding community as the Project provides accessible urban green spaces for public use and recreation, including paved walking paths and observations decks. The Project would be maintained during its operational life such that substantial physical deterioration of the proposed facilities and park does not result. Potential impacts would be less than significant.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<u>Finding: Less than Significant Impact With Mitigation</u>

The Project consists of creating a wetland habitat and pretreatment for dry-weather flow and stormwater before it enters the Los Angeles River as well as public access improvements such as walking paths and signage. The potential environmental impacts of the public recreation and access improvements have been analyzed within Sections 3.1 thru 3.21 of this IS/MND. Mitigation Measures in the Project's Mitigation Monitoring and Reporting Program (MMRP) in Section 4 of this IS/MND shall be implemented to reduce the Project's potential environmental impacts to less than significant with mitigation incorporated.

3.17 TRANSPORTATION

TRANSPORTATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g. farm equipment))?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 Environmental Setting

The City of Los Angeles has adopted programs, plans, ordinances and policies that establish the transportation planning framework for all travel modes. The overall goals of these policies are to achieve a safe, accessible and sustainable transportation system for all users. The Transportation Element of the City's General Plan, the "Mobility Plan 2035," offers a comprehensive vision and set of policies and programs the City aims to achieve to provide streets that are safe and convenient for all users. Vision Zero implements the Safety First goal of the Mobility Plan 2035, and aims to reduce transportation fatalities to zero by using extensive crash data analysis to identify priority corridors and intersections, and applying safety countermeasures.

On September 27, 2013, Governor Jerry Brown signed SB 743, which went into effect in January 2014. SB 743 directed the Governor's Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines by July 1, 2014 to establish new criteria for determining the significance of transportation impacts and define alternative metrics for traffic LOS. This started a process that changes transportation impact analysis under CEQA. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts for land use projects and plans in California. Additionally, as discussed further below, as part of SB 743, parking impacts for particular types of development projects in areas well served by transit are not considered significant impacts on the environment. According to the legislative intent contained in SB 743, these changes to current practice were necessary to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

On July 30, 2019, the City of Los Angeles City Council adopted the CEQA Transportation Analysis Update, which sets forth the revised thresholds of significance for evaluating transportation impacts as well as screening and evaluation criteria for determining impacts. The CEQA Transportation Analysis Update establishes VMT as the City's formal method of evaluating a project's transportation impacts. In conjunction with this update, LA DOT adopted its Transportation Assessment Guidelines (TAG) in July 2019 and updated in July 2020, which defines the methodology for analyzing a project's transportation impacts in accordance with SB 743.

3.17.2 Environmental Impact Analysis

a) Would the project conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?

Finding: Less Than Significant Impact

The proposed Project would include on-road vehicular traffic associated with worker trips, delivery of construction materials and fill import, and export of shallow impacted soils during the construction phase. Project operation would include on-road vehicular traffic associated with routine maintenance activities and post-construction public use of the site. The Project consists of using treated dry-weather flow and stormwater to create native wetland habitat and related public visitation opportunities in an Overburdened Community. The Project does not include a component that has the potential to conflict with the Los Angeles Mobility Plan 2035, Plan for Healthy LA, streetscape plans, Vision Zero plans, or municipal code related to transportation. Potential impacts would be less than significant.

b) Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Finding: No Impact

The City of Los Angeles Transportation Assessment Guidelines includes screening criteria by which to determine if additional traffic impact analysis is required. Specifically, the City of Los Angeles guidelines specify that projects with less than 250 daily vehicle trips do not require additional analysis and a "No Impact" finding can be made pursuant with SB743 and CEQA requirements (City of Los Angeles, 2022). Tables 16 and 17 summarize the Project's potential construction and operation vehicle trips based on the CalEEMod modeling conducted for the Project.

Table 16 Construction Phase Vehicle Trips

Construction Phase	Daily Vehicle Trips			
	Worker	Vendor	Hauling	Total
Shallow Soil Removal and Site Preparation	15	0	87	102
Stormwater Drain Connection and Treatment System Installation	59	23	0	82
Wetland Habitat and Landscape Installation	18	0	0	18
Amenities	59	23	0	82

Notes:
Hauling trips assume use of heavy-duty trucks. A passenger car equivalent of 3 has been conservatively applied to heavy-duty truck trips. A total of 29 truck trips per day are anticipated during the 45-day shallow soil removal and site preparation phase (1,284 trips total). Therefore, the 295 heavy-duty truck trips per day have a passenger car equivalency of 87 vehicle trips.

Table 17 Operation Phase Vehicle Trips

Daily Vehicle Trips		
Weekday	Saturday	Sunday
6	73	54
Notes: Operation vehicle trips estimated in CalEEMod using the Institute of Transportation Engineers trip generation rates for a city park and rounded to nearest whole number.		

As shown in Tables 16 and 17, the Project would result in up to 102 vehicle trips per day and up to 73 vehicle trips per day during construction and operation, respectively. These daily vehicle trips are below the 250 daily vehicle trips screening level adopted by the City of Los Angeles and potential and there would be no impact related to SB 743 or VMT.

c) Would the project substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Finding: No Impact

The City of Los Angeles Transportation Assessment Guidelines includes screening criteria by which to determine if additional traffic impact analysis is required to evaluate whether a project would result in impacts due to geometric design hazards or incompatible uses. Specifically, the guidelines specify that further analysis would be required if a project proposes new driveways, introduces new vehicle access to the property from the public right-of way, or proposes to make any voluntary or required modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.).

Vehicular site access is available the existing entrance to the Bowtie Parcel at the end of Kerr Street. Existing access is sufficient to accommodate the Project. The Project would not include new vehicular access from the public right-of-way, nor would it require modifications to the public right-of-way. No impact would occur.

d) Would the project result in inadequate emergency access?

Finding: Less Than Significant Impact

Existing access is sufficient to accommodate emergency access to the Project site. Potential impacts would be less than significant.

3.18 TRIBAL CULTURAL RESOURCES

TRIBAL CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

3.18.1 Environmental Setting

AB 52 (Chapter 532, Statutes of 2014) requires lead agencies to consider the effects of projects on tribal cultural resources and to conduct consultation with federally and non-federally recognized Native American Tribes early in the environmental planning process. The goal of AB 52 is to include California Tribes in determining whether a project may result in a significant impact to tribal cultural resources that may be undocumented or known only to the Tribe and its members. This bill specifies that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. AB 52 defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources (PRC § 21074 (a)(1)).

AB 52 requires that prior to determining whether a Negative Declaration, MND, or Environmental Impact Report (EIR) is prepared for a project, the lead agency must consult with California Native American Tribes, defined as those identified on the contact list maintained by the NAHC, who are traditionally and culturally affiliated with the geographic area of the proposed Project, and who have requested such consultation in writing. Consultation must be initiated by a lead agency within 14 days of determining that an application for a project is complete or that a decision by a public agency to undertake a project. The lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American Tribes that have requested notice. At the very least the notice should consist of at least one written notification that includes a brief description of the proposed Project and its location, the lead agency contact information, and a notification that the California Native American

Tribe has 30 days to request consultation pursuant to this section. The lead agency shall begin the consultation process within 30 days of receiving a California Native American Tribe's request for consultation. According to PRC §21080.3.2(b), consultation is considered concluded when either the parties agree to measure to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

3.18.2 Environmental Impact Analysis

a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Finding: Less Than Significant Impact With Mitigation Incorporated

Please refer to Section 3.5, response (a). Potential impacts would be less than significant with mitigation incorporated.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Finding: Less Than Significant Impact With Mitigation Incorporated

California State Parks initiated a Native American Heritage Commission request on October 26, 2020 and received a response on November 9, 2020 with a positive Sacred Lands File finding, and a list of tribal organizations to contact. California State Parks subsequently sent out AB 52 tribal consultation letters on February 4, 2021 to Fernandeno Tataviam Band of Mission Indians, Gabrieleño Band of Mission Indians - Kizh Nation, Gabrieleño/Tongva San Gabriel Band of Mission Indians, Gabrielino /Tongva Nation, and Gabrielino Tongva Indians of California Tribal Council.

California State Parks received notification requesting consultation from the Gabrieleño Band of Mission Indians – Kizh Nation and the Gabrieleño Tongva San Gabriel Band of Mission Indians. Additional outreach to the Gabrieleño/Tongva San Gabriel Band of Mission Indians resulted in no response. California State Parks and Gabrieleño Band of Mission Indians – Kizh Nation participated in numerous tribal resources consultations related to the Project between May 2021 and January 2023.

Gabrieleño Band of Mission Indians – Kizh Nation provided background and points of interest input related to plants that could be used to support site remediation, balance between community use and ecological restoration, and species to consider for the Project site's proposed restoration plant palette. Gabrieleño

Band of Mission Indians – Kizh Nation expressed appreciation for the diversity of the proposed Project site plant palette and expressed interest in additional species to be considered, including feedback on species appropriate or not appropriate to be considered for vector control.

The Gabrieleño Band of Mission Indians – Kizh Nation further expressed their concern about the potential for encountering tribal cultural resources during ground disturbance due to the proximity of the Los Angeles River, which was a traditional travel corridor, and recommended tribal monitoring. As a result of the consultation, California State Parks determined that proposed construction-related ground disturbances could result in a potentially significant tribal cultural resources impact. Mitigation Measures TCR-1 and TCR-2 would therefore be implemented to reduce potential tribal cultural resources impacts to less than significant with mitigation incorporated.

Mitigation Measures

TCR-1 Tribal Cultural Resources Monitoring During Construction: The Project Proponent shall obtain the services of a qualified Native American Monitor(s) during construction-related ground disturbance activities. Ground disturbance is defined by the Tribal Representatives from the Gabrieleño Band of Mission Indians-Kizh Nation as activities that include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, weed abatement, boring, grading, excavation, drilling, and trenching, within the project area.

The monitor(s) must be approved by the Tribal Representatives and will be present on-site during the construction phases that involve any ground disturbing activities. The Native American Monitor(s) will complete monitoring logs on a daily basis. The logs will provide descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. In addition, the monitor(s) will be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21083.2 (a) through (k). The on-site monitoring shall end when the Project site grading and excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for archeological resources.

TCR-2 Unanticipated Discovery of Tribal Cultural Resources: All archaeological resources unearthed by project construction activities shall be evaluated by the Qualified Archaeologist and Native Monitor. If the resources are Native American in origin, the Tribe shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If a resource is determined by the Qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or has a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the Qualified Archaeologist shall coordinate with the applicant and the City to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

3.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b) Have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves tor may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

The Project area is served by a number of utility and service systems which are discussed below in Section 3.19.2.Stormwater Drainage

3.19.2 Environmental Impact Analysis

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electrical power, natural gas, or

telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Finding: Less Than Significant Impact with Mitigation Incorporation

The Project includes a proposed dry-weather flow and stormwater treatment system, connection to an existing Los Angeles County storm drain system, an electrical connection with Los Angeles Department of Water and Power to provide electricity to the pump station, and a backup connection to the Los Angeles Department of Water and Power potable water supply system. These improvements would be completed within the approximately 3.2-acre Project site, the potential environmental impacts of which have been analyzed within this IS/MND. Mitigation Measures in the Project's Mitigation Monitoring and Reporting Program in Section 4 of this IS/MND shall be implemented to reduce the Project's potential environmental impacts to less than significant with mitigation incorporated.

b) **Would the project have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

Finding: Less Than Significant Impact

The Project would utilize treated dry-weather flow and stormwater to create and maintain native wetland habitat. While the Project includes a backup connection to the Los Angeles Department of Water and Power potable water supply system, it is not anticipated that the Project would require a substantial volume of water beyond supply availability. There is additionally no foreseeable future development at the Project site that would increase water supply need. Potential impacts would be less than significant.

c) **Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Finding: No Impact

The Project does not include discharge of wastewater to a wastewater treatment provider. No impact would occur.

d) **Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

Finding: Less Than Significant Impact

Project Construction would include the excavation and recycling, or disposal of shallow soils impacted with petroleum hydrocarbons and lead resulting in improved site conditions. Operation of the Project would involve minimal solid waste generation associated with water treatment system maintenance. The Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Potential impacts would be less than significant

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Finding: Less Than Significant Impact

Please refer to the response to question 3.19.2(d) above. The Project would not conflict with federal, state, and local management and reduction statutes and regulations related to solid waste. Potential impacts would be less than significant.

3.20 WILDFIRE

WILDFIRE Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones;				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Environmental Setting

According to Los Angeles County's Fire Hazard Severity Zone Map, the Project is not located within a designated wildland fire risk area (Los Angeles County, 2023).

3.20.2 Environmental Impact Analysis

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

a-d) <u>Finding: Less Than Significant Impact</u>

The Project is not located within a designated wildland fire risk area. The Project does not include a component that has the potential to increase wildland fire risk. The Project additionally does not include changes to public rights-of-way or site access modifications from the adjacent public way. The Project would not impair an adopted emergency response plan or emergency evacuation plan, expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, require the installation or maintenance of associated infrastructure that may exacerbate fire risk, or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Potential impacts would be less than significant.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	☐	☐	☒	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.21.1 Environmental Impact Analysis

a) Would the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Finding: Less than Significant Impact with Mitigation Incorporated

Based on the evaluation completed for this Initial Study/Mitigated Negative Declaration, construction of the Project has the potential to result in significant impacts as assessed in this IS/MND, but they would be mitigated based on mitigation incorporated within the Mitigation Monitoring and Reporting Program (Section 4). The Project does not include a component with the potential to otherwise degrade the quality of the environment or eliminate important examples of the major periods of California history or prehistory. The Project additionally includes a long-term beneficial impact to biological resources resulting from the creation of native habitat.

b) Would the project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a Project are considerable

when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?

Finding: Less Than Significant Impact

The Project involves construction and operation of native habitat and publicly-accessible green space in an Overburdened Community. As identified in the analysis, all potential impacts can be mitigated to less than significant. The Project is consistent with the land use and zoning of the site and does not include any component with the potential to result in cumulatively considerable impacts. The Project's potential cumulative impacts would be less than significant.

c) Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Finding: Less Than Significant Impact

Based on the results of the Initial Study/Mitigated Negative Declaration, the Project is not expected to have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly. Potential impacts would be less than significant.

4.0 MITIGATION MONITORING AND REPORTING PROGRAM

The following mitigation measures shall apply to the Bowtie Parcel Demonstration Wetland Project to reduce identified impacts to less than significant levels.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
BIO-1	**Wildlife Pre-Construction Clearance Surveys and Biological Monitoring:** Prior to ground disturbance or vegetation clearing within the proposed Project site, a qualified biologist shall conduct pre-construction clearance surveys for wildlife (no more than 7 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. Wildlife found within the proposed Project site or in areas potentially affected by the proposed Project shall be relocated to the nearest suitable habitat that would not be affected by the proposed Project prior to the start of construction. Special-status species found within a proposed Project impact area shall be relocated by a qualified biologist to suitable habitat outside the impact area prior to the start of ground-disturbing activities that may impact those species; this activity may be subject to prior incidental take authorization if required. Nesting birds found within the proposed Project impact areas shall be subject to buffer requirements and additional conditions as detailed below in mitigation measure BIO-4. A qualified biologist shall be onsite during all ground disturbance and vegetation removal activities throughout the construction phase. The qualified biologist(s) shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed, the species are allowed to leave, or are	Surveys (and relocations, if needed) prior to ground disturbance or vegetation clearing. Monitoring during construction ground disturbances and vegetation removals.	The Nature Conservancy	California State Parks	Review and approval of pre-construction clearance biological survey reports and daily construction biological monitoring logs during ground disturbances and vegetation removals.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	removed, and the species is no longer at risk. The qualified biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite. If required during pre-construction clearance surveys or required monitoring efforts, the qualified biologist(s) shall relocate common and special-status species that enter the proposed Project site; some special-status species may require specific permits prior to handling or have established protocols for relocation. Records of all detection, capture, and release shall be reported to CDFW and/or USFWS as appropriate. Should a federally or State listed species be discovered onsite, at any time, then activities shall be suspended, and the USFWS and/or CDFW contacted, as appropriate. Work shall not resume until coordination/consultation with the USFWS and/or CDFW has been completed, and recommended measures/ requirements have been implemented to minimize harm/harassment to the species.				
BIO-2	**Environmental Awareness Training:** Prior to initial ground disturbance, the Applicant shall submit proof to California State Parks that all proposed Project personnel have attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the proposed Project team shall comply with. The training program shall include applicable measures established for the proposed Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to California State Parks. Copies of all training materials shall be	Prior to initial ground disturbance.	The Nature Conservancy	California State Parks	Review and approval of Environmental Awareness Training content and logs of personnel training.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	maintained at the site for workers to reference and shall be provided in Spanish, as needed. A qualified biologist shall provide and document all trainings.				
BIO-3	**Implement Best Management Practices:** Implement Best Management Practices: Prior to initial ground disturbance, the Applicant shall submit grading plans and specifications to California State Parks, which indicate that the proposed Project shall implement the following BMPs: • Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation. • All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth dirt fill or wooden planks; escape ramps should be placed at an angle no greater than 30 degrees. Trenches shall also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped wildlife. Any wildlife discovered shall be allowed to escape before construction activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required). • All staged equipment, staged materials (e.g., pipe) or any other construction products that could shelter small animals overnight or during periods of work inactivity, shall be inspected for wildlife prior to moving. All sections of pipe shall be visually checked for	Prior to initial ground disturbance.	The Nature Conservancy	California State Parks	Review and approval of plans and specifications that include required BMPs.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	the presence of wildlife prior to being removed from the project site. If any sections of pipes are being stored onsite for any length of time, they shall be visually checked to ensure wildlife is absent and then all ends capped to prevent wildlife entry. • Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians. • Removal or disturbance of vegetation shall be minimized to the greatest extent feasible. • Installation and maintenance of appropriate erosion and sediment control measures as needed throughout the duration of work activities. • Implementation of a 15 miles per hour (MPH) speed limit within all proposed Project areas. • No vehicles or equipment shall be refueled, cleaned, or maintained (e.g., oil changed), nor shall other actions (e.g., washing of tools used for painting) that could result in the release of a hazardous substance, occur within 100 feet of a drainage or wetland unless a bermed and lined refueling area is constructed that would prevent the accidental spill of fuel, oil, or chemicals. Approved/designated areas should be in a location where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water), unless a requested exception is granted or prior written approval obtained. Spill kits shall be maintained onsite in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each; any spills or discharges shall be immediately contained, cleaned up, and properly disposed.				

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	• The proposed Project area shall be kept clear of trash to avoid attracting scavengers/predators. All food and garbage shall be placed in sealed containers and regularly removed from the site. Following construction, any trash, debris, or rubbish remaining within the work limits shall be collected and hauled off to an appropriate facility. • No rodent poisons or rodenticide shall be used to control rodents. These products, even used properly, can lead to secondary exposure to wildlife. • All work shall be performed during daylight hours. No nighttime operations (including lighting) shall be authorized to complete the project. • Work limits, as defined on project plans, shall be clearly delineated onsite (e.g., using orange snow fence, silt fence, lath and survey tape, etc.) prior to the start of any construction activities. No work shall occur outside of the approved work limits. • Work shall be limited to the construction footprint, as outlined in the Project plans. Access routes, staging areas, and the total footprint of disturbance shall be limited to the minimum number/size necessary to complete the Project and avoid resource impacts. All routes of travel and work boundaries shall be configured to avoid unnecessary intrusions into surrounding habitat. • Conditions set forth in any project-related permits/approvals shall be observed and implemented as part of construction. • No erosion control materials potentially harmful to fish and wildlife species, such as plastic mesh, mono-filament netting, or				

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	similar material shall be used. Erosion and sediment control devices, such as erosion control blankets, erosion control netting, and fiber rolls, shall be made of biodegradable loose-weave mesh that is not fused at the intersections of the weave (i.e., jute, coir/coconut fiber, or other natural fiber products without welded weaves) to avoid creating a wildlife entanglement hazard. In addition, weed-free products shall be used to minimize the spread of exotics. • All equipment shall be cleaned of dirt and vegetative material prior to arrival at and departure from the Project site to minimize the opportunity for the spread of non-native species, including noxious weeds. All imported fill shall be clean/certified free of invasive species • Any non-native, weedy vegetation removed during the clearing and grading activities shall be collected, treated, and disposed of as recommended by the qualified biologist.				
BIO-4	**Nesting Bird Surveys and Avoidance Measures:** Prior to initial ground disturbance or vegetation removal, the Applicant shall provide evidence to California State Parks of the following. If initial site disturbance is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 through August 15 for raptors), breeding and nesting bird surveys shall be conducted by a qualified biologist no more than 3 days prior to the start of site disturbance. Should work be suspended or delayed for a period of greater than seven 7 days (during the nesting season), then the qualified biologist, at their discretion, shall complete an additional nesting bird survey to ensure that no additional nesting has occurred within or adjacent to the Project area. If construction activities carry over into a second nesting season(s), the surveys shall be completed	Prior to initial ground disturbance if during avian nesting season, and during construction if nesting birds observed within buffer distances.	The Nature Conservancy	California State Parks	Review and approval of pre-ground disturbance nesting bird survey reports and daily construction monitoring logs if nesting birds within buffer distances.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	annually until the proposed Project is complete. Surveys shall be conducted within 500 feet of all proposed Project activities. The Applicant shall coordinate with USFWS and/or CDFW if endangered or threatened species are observed. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest, and no activities shall be allowed within the buffer(s) until the young have fledged from the nest or the nest fails; initial buffers for nesting raptors shall be 500 feet; a buffer of 0.25 mile shall be used for nesting peregrine falcon unless the line-of-sight from the edge of development is obscured as determined by a qualified ornithologist. The prescribed buffers for common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors; for example, buffers for common passerines, often found to be habituated to human activity, may be adjusted down to 25 - 50 feet depending on the disturbance tolerance of each specific species. Buffer adjustments for listed and/or other special-status species shall be done in coordination with the USFWS and CDFW as applicable. The qualified biologist shall conduct regular monitoring of the nest to determine success or failure and to ensure that proposed Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails.				
CR-1	**Worker Environmental Awareness Program:** Prior to construction activities, a qualified archaeologists meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (qualified archaeologist) shall conduct cultural resources Worker environmental Awareness Program (WEAP) training for all	Prior to initial ground disturbance.	The Nature Conservancy	California State Parks	Review and approval of Environmental Awareness Training content and logs of personnel training.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	construction personnel. Construction personnel shall be informed of the proposer procedures for treating cultural resources that may be encountered during construction activities.				
CR-2	**Archaeological Monitoring During Construction:** A qualified archeological monitor (working under the direct supervision of a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology) shall be present to monitor all ground-disturbing activities associated with the Project. The archaeological monitor shall be empowered to redirect construction activity in the even that archaeological resources are encountered, for the purposes of documenting the resource for evaluation by a qualified archaeologist. The archaeological monitor shall keep daily logs and provide updates to TNC upon request. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring, which shall be submitted to TNC and to the South Central Coastal Information Center at California State University, Fullerton.	Monitoring during construction ground disturbances.	The Nature Conservancy	California State Parks	Review and approval of daily construction archaeological monitoring logs during construction ground disturbances.
CR-3	**Protection of Encountered Archaeological Resources:** If a potentially significant archaeological resource is encountered, it shall be evaluated by a qualified archaeologist in coordination with a California State Parks cultural resources specialist. If the resource is determined to be significant, appropriate avoidance, site capping (burial), creation of conservation easements, and/or data recovery shall be implemented in accordance with Secretary of the Interior's Standards to bring the potential impact to that resource to levels less than significant.	During construction.	The Nature Conservancy	California State Parks	Coordination, review and approval of evaluation and protection measures, if warranted.
GEO-1	**Paleontological Monitoring and Mitigation Plan:** A paleontologist meeting professional standards of	Prior to Project construction activities.	The Nature Conservancy	California State Parks	Review and approval of Paleontological

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	the Society of Vertebrate Paleontology (2010) shall be retained as the project paleontologist to oversee all aspects of paleontological mitigation, including the development and implementation of a Paleontological Monitoring and Mitigation Plan (PMMP) tailored to the Project plans that provides for paleontological monitoring of earthwork and ground disturbing activities into undisturbed geologic units with high paleontological potential to be conducted by a paleontological monitor meeting industry standards (Murphey et al. 2019). The PMMP should also include provisions for a Workers' Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of paleontological resources during construction, to be delivered by the paleontological monitor to the construction crew prior to the onset of ground disturbance. As the Project is on California State Parks lands, a permit shall be required from California State Parks for this work.				Monitoring and Mitigation Plan and verification of content in Environmental Awareness Training.
GEO-2	**Paleontological Monitoring During Construction:** Paleontological monitoring shall be conducted by a qualified paleontological monitor for ground disturbance that exceeds 10 feet in depth across the Project area. The project paleontologist may reduce the frequency of monitoring should subsurface conditions indicate low paleontological potential.	During ground disturbance that exceeds 10 feet in depth across the Project area.	The Nature Conservancy	California State Parks	Review of daily construction paleontological monitoring logs during ground disturbances that exceed 10 feet.
GEO-3	**Management of Paleontological Resources**: Should a potential paleontological resource be identified in the Project area, whether by the monitor or a member of the construction crew, work shall halt in a safe radius around the find (usually 50 feet) until the Project paleontologist can assess the find and, if significant, salvage the fossil for laboratory preparation and curation at the Natural History Museum of Los Angeles County.	During construction.	California State Parks	California State Parks	Preparation and approval of documentation demonstrating work pause, assessment, and salvage/curation in collaboration with Natural History Museum of Los Angeles County (if necessary).

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
TCR-1	**Tribal Cultural Resources Monitoring During Construction:** The Project Proponent shall obtain the services of a qualified Native American Monitor(s) during construction-related ground disturbance activities. Ground disturbance is defined by the Tribal Representatives from the Gabrieleño Band of Mission Indians-Kizh Nation as activities that include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, weed abatement, boring, grading, excavation, drilling, and trenching, within the project area. The monitor(s) must be approved by the Tribal Representatives and will be present on-site during the construction phases that involve any ground disturbing activities. The Native American Monitor(s) will complete monitoring logs on a daily basis. The logs will provide descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. In addition, the monitor(s) will be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21083.2 (a) through (k). The on-site monitoring shall end when the Project site grading and excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for archeological resources.	During construction-related ground disturbance activities.	The Nature Conservancy	California State Parks	Retention of a qualified Native American Monitor(s) and review of daily monitoring records.
TCR-2	**Unanticipated Discovery of Tribal Cultural Resources:** All archaeological resources unearthed by project construction activities shall be evaluated by the Qualified Archaeologist and Native Monitor. If the resources are Native	During Project construction.	The Nature Conservancy	California State Parks	Retention of a qualified Native American Monitor(s) and review of daily monitoring records.

Mitigation Measure	Monitoring Action	Required Time of Compliance	Implementation Responsibility	Verification Responsibility	Verification Method
	American in origin, the Tribe shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If a resource is determined by the Qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or has a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the Qualified Archaeologist shall coordinate with the applicant and the City to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.				

5.0 PREPARERS

The following individuals prepared or contributed to preparation of this Initial Study/Mitigated Negative Declaration. Authors of supporting technical studies and plans are provided within each respective technical report Appendix B (Biological Resources Technical Report), Appendix C (Cultural Resources Survey Report), Appendix D (Paleontological Resource Assessment), and Appendix E (Removal Action Workplan).

5.1 CALIFORNIA STATE PARKS

Monica Stupaczuk, Biological Resources

Barbara Tejada, Cultural Resource, Geology and Soils, and Tribal Cultural Resources

Luke Serna, Geology and Soils, Hazards and Hazardous Materials, and Hydrology and Water Quality

Mark Jones, Cultural Resources

YuJu Liu, Aesthetics and Recreation

5.2 THE NATURE CONSERVANCY

Kelsey Jessup, Project Manager

5.3 STANTEC CONSULTING SERVICES INC.

Christopher Mote, Project Description

Emily Buffham, Aesthetics, Agricultural and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems

Michael Weber, Air Quality, Energy Resources, Geology and Soils, Greenhouse Gases, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Wildfire

Jennifer Campbell, Biological Resources

Jared Varonin, CFP, CRAM, Biological Resources

6.0 REFERENCES

Amicus – Strategic Environmental Consulting. 2023. Removal Action Workplan Nature Conservancy Demonstration Project.

Anderson, T.P., Loyd, R.C., Clark, W.B., Miller, R.V., Richard Corbaley, R., Kohler, S., and Bushnell, M.M.. 1979 Special Report 143 PART II: Classification of Sand and Gravel Resource Area- San Fernando Valley Production- Consumption Region. Los Angeles, California. Available at: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Reports/SR_143-MLC-Report02.pdf. Accessed August 4, 2022.

Bean and Smith 1978. Gabrielino. In Handbook of North American Indians, Volume 8, California, pp. 538-549. Edited by R.F. Heizer. William C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Bevil and Dallas. 2004. Taylor Yard Preliminary Cultural Evaluation. California State Parks, Southern Service Center.

Byrd and Raab 2007; Wallace 1955; Warren 1968. Prehistory of the Southern California Bight: Models for a New Millennium, in Colonization, Culture, and Complexity: California's Chaotic Prehistory. pp. 215-228. Altamira Press, edited by T.L. Jones and K.A. Klar.

California Department of Conservation. 2023. Los Angeles County Tsunami Hazard Areas. Available at: https://www.conservation.ca.gov/cgs/tsunami/maps/los-angeles. Accessed January 4, 2023.

California Department of Fish and Wildlife. 2022a. RAREFIND database ed.3.1.1. Electronic database managed by the California Natural Diversity Data Base, Wildlife Data and Habitat Analysis Branch, California Department of Fish and Wildlife. Sacramento, CA

California Department of Fish and Wildlife. 2022b. State and Federally Listed Endangered and Threatened Animals of California. April.

California Department of Fish and Wildlife. 2022c. Special Animals List. April.

California Department of Fish and Wildlife. 2022d. State and Federally Listed Endangered and Threatened Plants of California. April.

California Department of Fish and Wildlife. 2021. California Sensitive Natural Communities. August.

California Department of Fish and Wildlife. 2020. California Natural Diversity Database Management Framework.

California Native Plant Society. 2022. Rare Plant Program. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org. Accessed 21 June 2022.

California Department of Parks and Recreation. 2022. The Bowtie – Rio de Los Angeles State Park. Available at: http://parks.ca.gov/?page_id=30530.

CalEEMod. 2016. California Emission Estimator Model. Version 2016.3.1.

Castillo. 1978. The Impact of Euro-American Exploration and Settlement. In Handbook of North American Indians, Volume 8, California, edited by R.F. Heizer, pp. 99–127. William C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Chaves 1999. Pongo Mi Demanda: Challenging Patriarchy in Mexican Los Angeles, 1830-1850," In Over the Edge: Remapping the American West. Valerie J. Matsumoto and Blake Allmendinger (ed.). University of California Press.

City of Los Angeles. 2006. L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles (Thresholds Guide).

City of Los Angeles. 2022. Los Angeles Department of Transportation. Transportation Assessment Guidelines. Available at: https://ladot.lacity.org/sites/default/files/documents/2020-transportation-assessment-guidelines_final_2020.07.27_0.pdf. Accessed January 8, 2023.

City of Los Angeles. 2019. Los Angeles Sustainable City pLAn. Available at: https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf. Accessed January 8, 2023.

City of Los Angeles. 2001. City of Los Angeles Conservation Element. Available at: https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf. Accessed August 15, 2022.

City of Los Angeles. 2023a. Geological Faults, Available at: https://geohub.lacity.org/datasets/geological-faults/explore?location=34.105997%2C-118.270075%2C11.46. Accessed on January 4, 2023.

City of Los Angeles. 2023b. Liquefaction Hazard Zones, Available at: https://geohub.lacity.org/datasets/lacounty::liquefaction-zones/explore?location=34.104263%2C-118.234179%2C13.88. Accessed on January 4, 2023.

City of Los Angeles. 2023c. Landslide Zones, Available at: https://geohub.lacity.org/datasets/lacounty::landslide-zones/explore?location=34.097891%2C-118.244599%2C13.97. Accessed on January 4, 2023.

City of Los Angeles. 2023d. 100-Year Flood Plain, Available at: https://geohub.lacity.org/datasets/01037b632e404673a7e34416a82076d7/explore?location=34.106160%2C-118.239448%2C15.94. Accessed on January 4, 2023.

Cleland. 1941. The Cattle on a Thousand Hills: Southern California, 1850–1870. Huntington Library, San Marino, California.

Consortium of California Herbaria. 2022. California Vascular Plant Online Database. Available online at: http://ucjeps.berkeley.edu/consortium/. Accessed June 2022.

Converse Consultants 2022. Geotechnical Investigation Report: Bowtie Wetland Park Storm Drain Diversion. Report prepared for Stantec.

Department of Recreation and Parks. 2022. City Los Angeles Department of Recreation and Parks: Discover Facilities. Available at: https://www.laparks.org/discover-facilities. Accessed August 4, 2022.

Erlandson. 1994. Early Hunter-Gatherers of the California Coast. Plenum Press, New York.

FSD (Facilities Services Division). 2022. Facilities Services Division Los Angeles Unified School District. Available at: https://www.laschools.org/new-site/. Accessed August 4, 2022.

Fogelson. 1993. The Fragmented metropolis, Los Angeles, 1850-1930. University of California Press, Berkley.

Geotek. 2021. Preliminary Geotechnical Evaluation Bowtie Wetland Park Improvements South of the Casitas Avenue Cul-De-Sac Los Angeles, Los Angeles County, California. Report prepared for Bluegreen Consulting.

Gudde. 1998. California Place Names: The Origin and Etymology of Current Geographical Names. Revised from first edition, 1949. University of California Press, Berkeley.

Hoffman. 1862. Reports of Land Cases Determined in the United States District Court for the Northern District of California, Numa Hubert, San Francisco.

Hoyt. 1953. The Los Angeles and San Pedro: The First Railroad South of the Tehachapis. In California Historical Quarterly. Vol 32 (4). December 1953. pp. 327-348. University of California Press in association with the California Historical Society.

Los Angeles Department of Water and Power. 2020. About Us, Power, Facts & Figures. Available at: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-factandfigures?_adf.ctrl-state=e2n1s8vcx_4&_afrLoop=115536724773067. Accessed March 2020.

LAFD (Los Angeles Fire Department). 2022. Find Your Station. Available at: https://www.lafd.org/fire-stations/station-results. Accessed August 4, 2022.

LAPD (Los Angeles Police Department). 2022. Find Your Local Police Station. Available at: https://www.lapdonline.org/find-your-local-police-station/. Accessed August 3, 2022.

Los Angeles County. 2022. Fire Hazard Severity Zone Web Map. Available at: https://lacounty.maps.arcgis.com/apps/webappviewer/index.html?id=d2ea45d15c784adfa601e84b38060c4e. Accessed January 4, 2023.

LARR (LA River Revitalization). 2021. LA River Ecosystem Restoration: The Los Angeles River Ecosystem Restoration Feasibility Study. Available at: https://lariver.org/blog/la-river-ecosystem-restoration. Accessed August 3, 2022.

McCawley. 1996. The First Angelinos: the Gabrielino Indians of Los Angeles. Malki Museum Press, Morongo Indian Reservation, Banning, California.

Miller 1991. The Gabrielino. Sand River Press, Los Osos, California.

Robinson. 1948. Land in California: The Story of Mission Lands, Ranchos, Squatters, Mining Claims, Railroad Grants, Land Scrip, Homesteads. University of California Press, Berkeley.

Robinson. 1978. Southern California's First Railroad. Los Angeles, CA: Dawson's Book Shop.

Sawyer et al. 2009. Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California.

South Coast Air Quality Management District. 2018. National Ambient Air Quality Standards and California Ambient Air Quality and Standards Attainment Status for South Coast Air Basin. Available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=14.

South Coast Air Quality Management District. 2015. Air Quality Significance (Mass Daily) Thresholds. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

South Coast Air Quality Management District. 2008a. Mass Rate LST Lookup Tables, Appendix C. Available at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds#appc.

South Coast Air Quality Management District. 2008b. Greenhouse Gases (GHG) CEQA Significance Thresholds. Available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2.

Spencer et al. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

Starr. 2015. California: A History. The Modern Library, New York.

The Nature Conservancy. 2016. Water Supply and Habitat Resiliency for a Future Los Angeles River: Site-Specific Natural Enhancement Opportunities Informed by Rive Flow and Watershed-Wide Action; Los Feliz to Taylor Yard. Report by The Nature Conservancy's Urban Conservation Program to the Santa Monica Mountains Conservancy and the City of Los Angeles.

Thomson. 2016. California amphibian and reptile species of special concern. Univ of California Press.

T.M. Barry and J.A. Reagan, 1978. Federal Highway Administration Highway Traffic Noise Prediction Model. Publication FHWA-RD-77-108.

Treutlein. 1968. The Portola Expedition of 1769-1770. California Historical Society Quarterly 47(4): 291.

United States Census Bureau. 2021. Quick Facts: Los Angeles city, California. Available at: https://www.census.gov/quickfacts/fact/table/losangelescitycalifornia/PST045221. Accessed August 3, 2022.

University of California Santa Barbara. 2022. "FrameFinder Aerial Photos," Historic aerial photographs 1927, 1928, 1940, 1952, 1960, 1976, 1980, 1985, 1987, and 1988. UCSB Library, Special Research Collections, University of California Santa Barbara. Accessed August 31, 2022. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

United States Army Corps of Engineers and California Department of Fish and Game. 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. SCH No. 2000011025.

United States Army Corps of Engineers. 2015. Los Angeles River Ecosystem Restoration Study.

United States Department of Agriculture. 2020. Natural Resources Conservation Service Custom Soil Resource Report.

United States Environmental Protection Agency. 2008. Focused Feasibility Study North Hollywood Operable Unit San Fernando Valley Area 1 Superfund Site Los Angeles County, California.

United States Fish and Wildlife Service. 2020a.National Wetlands Inventory, Available online at: https://www.fws.gov/wetlands/data/mapper.html. Accessed March 2020.

United States Fish and Wildlife Service. 2020b. Critical Habitat – Frequently Asked Questions. Available online at https://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html. Accessed March 2020.

United States Department of Transportation. 2006. Federal Highway Administration Highway Construction Manual.

United States Geological Survey. 2022. MRData: Mineral Resources Online Spatial Data. Available at: https://mrdata.usgs.gov/general/map-us.html#home. Accessed August 3, 2022.

Vurtinus. 1979. “The Mormon volunteers: The Recruitment and Service of a Unique Military Company,” In: The Journal of San Diego History, Summer 1979, 25 (3).

ZIMAS (Zone Information and Map Access System). LA City. Available at: **HTTP://ZIMAS.LACITY.ORG/**. Accessed August 3, 2022.

APPENDIX A CALEEMOD OUTPUT

Bowtie Wetland Demonstration

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	3.20	Acre	3.20	139,392.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - estimated schedule

Off-road Equipment -

Trips and VMT - 1,284 haul trips for import/export

Grading - Assumed entire 3.2 acre site graded. Shallow soil removal and site prep = 10,547 cubic yards exported for impacted soil removal, 4,166 cubic yards exported from wetland site prep excavation, and 260 cubic yards of rip rap import = 14,973 cubic yards total.

Water And Wastewater -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	230.00	130.00
tblGrading	AcresOfGrading	22.50	3.20
tblGrading	MaterialExported	0.00	14,713.00
tblGrading	MaterialImported	0.00	260.00
tblTripsAndVMT	HaulingTripNumber	1,872.00	1,284.00
tblTripsAndVMT	VendorTripNumber	23.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

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	tons/yr										MT/yr					
2023	0.1409	1.3439	1.3671	3.1200e-003	0.1921	0.0554	0.2475	0.0894	0.0518	0.1411	0.0000	278.8056	278.8056	0.0534	0.0000	280.1397
2024	0.1304	1.0925	1.3879	2.6900e-003	0.0542	0.0474	0.1015	0.0145	0.0445	0.0590	0.0000	235.1895	235.1895	0.0439	0.0000	236.2863
Maximum	**0.1409**	**1.3439**	**1.3879**	**3.1200e-003**	**0.1921**	**0.0554**	**0.2475**	**0.0894**	**0.0518**	**0.1411**	**0.0000**	**278.8056**	**278.8056**	**0.0534**	**0.0000**	**280.1397**

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	tons/yr										MT/yr					
2023	0.1409	1.3439	1.3671	3.1200e-003	0.1921	0.0554	0.2475	0.0894	0.0518	0.1411	0.0000	278.8054	278.8054	0.0534	0.0000	280.1395
2024	0.1304	1.0925	1.3879	2.6900e-003	0.0542	0.0474	0.1015	0.0145	0.0445	0.0590	0.0000	235.1893	235.1893	0.0439	0.0000	236.2861
Maximum	**0.1409**	**1.3439**	**1.3879**	**3.1200e-003**	**0.1921**	**0.0554**	**0.2475**	**0.0894**	**0.0518**	**0.1411**	**0.0000**	**278.8054**	**278.8054**	**0.0534**	**0.0000**	**280.1395**

	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**	**N20**	**CO2e**
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2023	8-31-2023	0.7393	0.7393
2	9-1-2023	11-30-2023	0.5681	0.5681
3	12-1-2023	2-29-2024	0.5089	0.5089
4	3-1-2024	5-31-2024	0.5194	0.5194
5	6-1-2024	8-31-2024	0.3684	0.3684
		Highest	0.7393	0.7393

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	tons/yr										MT/yr					
Area	1.3100e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	8.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	5.5800e-003	0.0258	0.0726	2.8000e-004	0.0244	2.2000e-004	0.0247	6.5500e-003	2.0000e-004	6.7500e-003	0.0000	26.0710	26.0710	1.2600e-003	0.0000	26.1025
Waste						0.0000	0.0000		0.0000	0.0000	0.0568	0.0000	0.0568	3.3600e-003	0.0000	0.1408
Water						0.0000	0.0000		0.0000	0.0000	0.0000	23.5926	23.5926	5.6000e-004	1.2000e-004	23.6409
Total	**6.8900e-003**	**0.0258**	**0.0726**	**2.8000e-004**	**0.0244**	**2.2000e-004**	**0.0247**	**6.5500e-003**	**2.0000e-004**	**6.7500e-003**	**0.0568**	**49.6637**	**49.7206**	**5.1800e-003**	**1.2000e-004**	**49.8843**

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	1.3100e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	8.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	5.5800e-003	0.0258	0.0726	2.8000e-004	0.0244	2.2000e-004	0.0247	6.5500e-003	2.0000e-004	6.7500e-003	0.0000	26.0710	26.0710	1.2600e-003	0.0000	26.1025
Waste						0.0000	0.0000		0.0000	0.0000	0.0568	0.0000	0.0568	3.3600e-003	0.0000	0.1408
Water						0.0000	0.0000		0.0000	0.0000	0.0000	23.5926	23.5926	5.6000e-004	1.2000e-004	23.6409
Total	**6.8900e-003**	**0.0258**	**0.0726**	**2.8000e-004**	**0.0244**	**2.2000e-004**	**0.0247**	**6.5500e-003**	**2.0000e-004**	**6.7500e-003**	**0.0568**	**49.6637**	**49.7206**	**5.1800e-003**	**1.2000e-004**	**49.8843**

	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	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	0.0000
Total	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Shallow Soil Removal and Site Preparation	Grading	6/1/2023	8/2/2023	5	45	
2	Stormwater Drain Connection and Treatment System Installation	Building Construction	8/3/2023	11/1/2023	5	65	
3	Wetland Habitat and Landscape Installation	Building Construction	11/2/2023	5/1/2024	5	130	
4	Amenities	Building Construction	5/2/2024	7/31/2024	5	65	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Shallow Soil Removal and Site Preparation	Excavators	1	8.00	158	0.38
Shallow Soil Removal and Site Preparation	Graders	1	8.00	187	0.41
Shallow Soil Removal and Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Shallow Soil Removal and Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Stormwater Drain Connection and Treatment System Installation	Cranes	1	7.00	231	0.29
Stormwater Drain Connection and Treatment System Installation	Forklifts	3	8.00	89	0.20
Stormwater Drain Connection and Treatment System Installation	Generator Sets	1	8.00	84	0.74
Stormwater Drain Connection and Treatment System Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Stormwater Drain Connection and Treatment System Installation	Welders	1	8.00	46	0.45
Wetland Habitat and Landscape Installation	Rubber Tired Dozers	0		247	0.40
Wetland Habitat and Landscape Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Amenities	Cranes	1	7.00	231	0.29
Amenities	Forklifts	3	8.00	89	0.20
Amenities	Generator Sets	1	8.00	84	0.74
Amenities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Amenities	Welders	1	8.00	46	0.45
Wetland Habitat and Landscape Installation	Cranes	1	7.00	231	0.29
Wetland Habitat and Landscape Installation	Forklifts	3	8.00	89	0.20
Wetland Habitat and Landscape Installation	Generator Sets	1	8.00	84	0.74
Wetland Habitat and Landscape Installation	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Shallow Soil Removal and Site Preparation	6	15.00	0.00	1,284.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Stormwater Drain Connection and Treat	9	59.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Wetland Habitat and Landscape Installation	9	59.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Amenities	9	59.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Shallow Soil Removal and Site Preparation - 2023

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	tons/yr										MT/yr					
Fugitive Dust					0.1380	0.0000	0.1380	0.0748	0.0000	0.0748	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0385	0.4036	0.3319	6.7000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	58.6364	58.6364	0.0190	0.0000	59.1105
Total	**0.0385**	**0.4036**	**0.3319**	**6.7000e-004**	**0.1380**	**0.0174**	**0.1555**	**0.0748**	**0.0160**	**0.0908**	**0.0000**	**58.6364**	**58.6364**	**0.0190**	**0.0000**	**59.1105**

3.2 Shallow Soil Removal and Site Preparation - 2023

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	tons/yr										MT/yr					
Hauling	3.3800e-003	0.1082	0.0372	4.7000e-004	0.0110	1.9000e-004	0.0112	3.0300e-003	1.9000e-004	3.2200e-003	0.0000	46.3435	46.3435	3.1100e-003	0.0000	46.4211
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	9.2000e-004	0.0108	3.0000e-005	3.7000e-003	3.0000e-005	3.7300e-003	9.8000e-004	3.0000e-005	1.0100e-003	0.0000	3.1024	3.1024	8.0000e-005	0.0000	3.1044
Total	**4.6600e-003**	**0.1091**	**0.0480**	**5.0000e-004**	**0.0147**	**2.2000e-004**	**0.0150**	**4.0100e-003**	**2.2000e-004**	**4.2300e-003**	**0.0000**	**49.4459**	**49.4459**	**3.1900e-003**	**0.0000**	**49.5256**

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	tons/yr										MT/yr					
Fugitive Dust					0.1380	0.0000	0.1380	0.0748	0.0000	0.0748	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0385	0.4036	0.3319	6.7000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	58.6363	58.6363	0.0190	0.0000	59.1104
Total	**0.0385**	**0.4036**	**0.3319**	**6.7000e-004**	**0.1380**	**0.0174**	**0.1555**	**0.0748**	**0.0160**	**0.0908**	**0.0000**	**58.6363**	**58.6363**	**0.0190**	**0.0000**	**59.1104**

3.2 Shallow Soil Removal and Site Preparation - 2023

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	tons/yr										MT/yr					
Hauling	3.3800e-003	0.1082	0.0372	4.7000e-004	0.0110	1.9000e-004	0.0112	3.0300e-003	1.9000e-004	3.2200e-003	0.0000	46.3435	46.3435	3.1100e-003	0.0000	46.4211
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	9.2000e-004	0.0108	3.0000e-005	3.7000e-003	3.0000e-005	3.7300e-003	9.8000e-004	3.0000e-005	1.0100e-003	0.0000	3.1024	3.1024	8.0000e-005	0.0000	3.1044
Total	**4.6600e-003**	**0.1091**	**0.0480**	**5.0000e-004**	**0.0147**	**2.2000e-004**	**0.0150**	**4.0100e-003**	**2.2000e-004**	**4.2300e-003**	**0.0000**	**49.4459**	**49.4459**	**3.1900e-003**	**0.0000**	**49.5256**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	tons/yr										MT/yr					
Off-Road	0.0511	0.4675	0.5279	8.8000e-004		0.0227	0.0227		0.0214	0.0214	0.0000	75.3365	75.3365	0.0179	0.0000	75.7846
Total	**0.0511**	**0.4675**	**0.5279**	**8.8000e-004**		**0.0227**	**0.0227**		**0.0214**	**0.0214**	**0.0000**	**75.3365**	**75.3365**	**0.0179**	**0.0000**	**75.7846**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6200e-003	0.0530	0.0170	1.8000e-004	4.7100e-003	6.0000e-005	4.7700e-003	1.3600e-003	6.0000e-005	1.4200e-003	0.0000	17.6920	17.6920	9.6000e-004	0.0000	17.7161
Worker	7.2700e-003	5.2500e-003	0.0614	1.9000e-004	0.0210	1.6000e-004	0.0212	5.5800e-003	1.5000e-004	5.7300e-003	0.0000	17.6264	17.6264	4.5000e-004	0.0000	17.6378
Total	**8.8900e-003**	**0.0582**	**0.0784**	**3.7000e-004**	**0.0257**	**2.2000e-004**	**0.0259**	**6.9400e-003**	**2.1000e-004**	**7.1500e-003**	**0.0000**	**35.3184**	**35.3184**	**1.4100e-003**	**0.0000**	**35.3539**

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	tons/yr										MT/yr					
Off-Road	0.0511	0.4675	0.5279	8.8000e-004		0.0227	0.0227		0.0214	0.0214	0.0000	75.3365	75.3365	0.0179	0.0000	75.7845
Total	**0.0511**	**0.4675**	**0.5279**	**8.8000e-004**		**0.0227**	**0.0227**		**0.0214**	**0.0214**	**0.0000**	**75.3365**	**75.3365**	**0.0179**	**0.0000**	**75.7845**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6200e-003	0.0530	0.0170	1.8000e-004	4.7100e-003	6.0000e-005	4.7700e-003	1.3600e-003	6.0000e-005	1.4200e-003	0.0000	17.6920	17.6920	9.6000e-004	0.0000	17.7161
Worker	7.2700e-003	5.2500e-003	0.0614	1.9000e-004	0.0210	1.6000e-004	0.0212	5.5800e-003	1.5000e-004	5.7300e-003	0.0000	17.6264	17.6264	4.5000e-004	0.0000	17.6378
Total	**8.8900e-003**	**0.0582**	**0.0784**	**3.7000e-004**	**0.0257**	**2.2000e-004**	**0.0259**	**6.9400e-003**	**2.1000e-004**	**7.1500e-003**	**0.0000**	**35.3184**	**35.3184**	**1.4100e-003**	**0.0000**	**35.3539**

3.4 Wetland Habitat and Landscape Installation - 2023

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	tons/yr										MT/yr					
Off-Road	0.0330	0.3021	0.3411	5.7000e-004		0.0147	0.0147		0.0138	0.0138	0.0000	48.6790	48.6790	0.0116	0.0000	48.9685
Total	**0.0330**	**0.3021**	**0.3411**	**5.7000e-004**		**0.0147**	**0.0147**		**0.0138**	**0.0138**	**0.0000**	**48.6790**	**48.6790**	**0.0116**	**0.0000**	**48.9685**

3.4 Wetland Habitat and Landscape Installation - 2023

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-003	3.3900e-003	0.0397	1.3000e-004	0.0136	1.1000e-004	0.0137	3.6100e-003	1.0000e-004	3.7000e-003	0.0000	11.3894	11.3894	2.9000e-004	0.0000	11.3967
Total	**4.7000e-003**	**3.3900e-003**	**0.0397**	**1.3000e-004**	**0.0136**	**1.1000e-004**	**0.0137**	**3.6100e-003**	**1.0000e-004**	**3.7000e-003**	**0.0000**	**11.3894**	**11.3894**	**2.9000e-004**	**0.0000**	**11.3967**

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	tons/yr										MT/yr					
Off-Road	0.0330	0.3021	0.3411	5.7000e-004		0.0147	0.0147		0.0138	0.0138	0.0000	48.6789	48.6789	0.0116	0.0000	48.9684
Total	**0.0330**	**0.3021**	**0.3411**	**5.7000e-004**		**0.0147**	**0.0147**		**0.0138**	**0.0138**	**0.0000**	**48.6789**	**48.6789**	**0.0116**	**0.0000**	**48.9684**

3.4 Wetland Habitat and Landscape Installation - 2023

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-003	3.3900e-003	0.0397	1.3000e-004	0.0136	1.1000e-004	0.0137	3.6100e-003	1.0000e-004	3.7000e-003	0.0000	11.3894	11.3894	2.9000e-004	0.0000	11.3967
Total	**4.7000e-003**	**3.3900e-003**	**0.0397**	**1.3000e-004**	**0.0136**	**1.1000e-004**	**0.0137**	**3.6100e-003**	**1.0000e-004**	**3.7000e-003**	**0.0000**	**11.3894**	**11.3894**	**2.9000e-004**	**0.0000**	**11.3967**

3.4 Wetland Habitat and Landscape Installation - 2024

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	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0136	102.0136	0.0241	0.0000	102.6167
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0136**	**102.0136**	**0.0241**	**0.0000**	**102.6167**

3.4 Wetland Habitat and Landscape Installation - 2024

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3300e-003	6.4800e-003	0.0775	2.6000e-004	0.0285	2.2000e-004	0.0287	7.5600e-003	2.0000e-004	7.7600e-003	0.0000	23.1236	23.1236	5.6000e-004	0.0000	23.1376
Total	**9.3300e-003**	**6.4800e-003**	**0.0775**	**2.6000e-004**	**0.0285**	**2.2000e-004**	**0.0287**	**7.5600e-003**	**2.0000e-004**	**7.7600e-003**	**0.0000**	**23.1236**	**23.1236**	**5.6000e-004**	**0.0000**	**23.1376**

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	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0135	102.0135	0.0241	0.0000	102.6166
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0135**	**102.0135**	**0.0241**	**0.0000**	**102.6166**

3.4 Wetland Habitat and Landscape Installation - 2024

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3300e-003	6.4800e-003	0.0775	2.6000e-004	0.0285	2.2000e-004	0.0287	7.5600e-003	2.0000e-004	7.7600e-003	0.0000	23.1236	23.1236	5.6000e-004	0.0000	23.1376
Total	**9.3300e-003**	**6.4800e-003**	**0.0775**	**2.6000e-004**	**0.0285**	**2.2000e-004**	**0.0287**	**7.5600e-003**	**2.0000e-004**	**7.7600e-003**	**0.0000**	**23.1236**	**23.1236**	**5.6000e-004**	**0.0000**	**23.1376**

3.5 Amenities - 2024

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	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964
Total	**0.0478**	**0.4369**	**0.5254**	**8.8000e-004**		**0.0199**	**0.0199**		**0.0188**	**0.0188**	**0.0000**	**75.3510**	**75.3510**	**0.0178**	**0.0000**	**75.7964**

3.5 Amenities - 2024

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0528	0.0165	1.8000e-004	4.7100e-003	6.0000e-005	4.7700e-003	1.3600e-003	6.0000e-005	1.4200e-003	0.0000	17.6215	17.6215	9.5000e-004	0.0000	17.6453
Worker	6.8900e-003	4.7900e-003	0.0572	1.9000e-004	0.0210	1.6000e-004	0.0212	5.5800e-003	1.5000e-004	5.7300e-003	0.0000	17.0799	17.0799	4.2000e-004	0.0000	17.0903
Total	**8.4700e-003**	**0.0575**	**0.0737**	**3.7000e-004**	**0.0257**	**2.2000e-004**	**0.0259**	**6.9400e-003**	**2.1000e-004**	**7.1500e-003**	**0.0000**	**34.7014**	**34.7014**	**1.3700e-003**	**0.0000**	**34.7356**

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	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963
Total	**0.0478**	**0.4369**	**0.5254**	**8.8000e-004**		**0.0199**	**0.0199**		**0.0188**	**0.0188**	**0.0000**	**75.3509**	**75.3509**	**0.0178**	**0.0000**	**75.7963**

3.5 Amenities - 2024

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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0528	0.0165	1.8000e-004	4.7100e-003	6.0000e-005	4.7700e-003	1.3600e-003	6.0000e-005	1.4200e-003	0.0000	17.6215	17.6215	9.5000e-004	0.0000	17.6453
Worker	6.8900e-003	4.7900e-003	0.0572	1.9000e-004	0.0210	1.6000e-004	0.0212	5.5800e-003	1.5000e-004	5.7300e-003	0.0000	17.0799	17.0799	4.2000e-004	0.0000	17.0903
Total	**8.4700e-003**	**0.0575**	**0.0737**	**3.7000e-004**	**0.0257**	**2.2000e-004**	**0.0259**	**6.9400e-003**	**2.1000e-004**	**7.1500e-003**	**0.0000**	**34.7014**	**34.7014**	**1.3700e-003**	**0.0000**	**34.7356**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	5.5800e-003	0.0258	0.0726	2.8000e-004	0.0244	2.2000e-004	0.0247	6.5500e-003	2.0000e-004	6.7500e-003	0.0000	26.0710	26.0710	1.2600e-003	0.0000	26.1025
Unmitigated	5.5800e-003	0.0258	0.0726	2.8000e-004	0.0244	2.2000e-004	0.0247	6.5500e-003	2.0000e-004	6.7500e-003	0.0000	26.0710	26.0710	1.2600e-003	0.0000	26.1025

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	6.05	72.80	53.57	64,378	64,378
Total	6.05	72.80	53.57	64,378	64,378

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

5.0 Energy Detail

Historical Energy Use: N

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

<u>Unmitigated</u>

	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/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	tons/yr										MT/yr					
Mitigated	1.3100e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	8.0000e-005
Unmitigated	1.3100e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	8.0000e-005

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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	8.0000e-005
Total	**1.3100e-003**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**8.0000e-005**

6.2 Area by SubCategory

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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	8.0000e-005
Total	**1.3100e-003**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**8.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	23.5926	5.6000e-004	1.2000e-004	23.6409
Unmitigated	23.5926	5.6000e-004	1.2000e-004	23.6409

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 3.81274	23.5926	5.6000e-004	1.2000e-004	23.6409
Total		**23.5926**	**5.6000e-004**	**1.2000e-004**	**23.6409**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 3.81274	23.5926	5.6000e-004	1.2000e-004	23.6409
Total		**23.5926**	**5.6000e-004**	**1.2000e-004**	**23.6409**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0568	3.3600e-003	0.0000	0.1408
Unmitigated	0.0568	3.3600e-003	0.0000	0.1408

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.28	0.0568	3.3600e-003	0.0000	0.1408
Total		**0.0568**	**3.3600e-003**	**0.0000**	**0.1408**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.28	0.0568	3.3600e-003	0.0000	0.1408
Total		**0.0568**	**3.3600e-003**	**0.0000**	**0.1408**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.0000	0.0000	0.0000	0.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Wetlands	0 / 2	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Bowtie Wetland Demonstration

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	3.20	Acre	3.20	139,392.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - estimated schedule

Off-road Equipment -

Trips and VMT - 1,284 haul trips for import/export

Grading - Assumed entire 3.2 acre site graded. Shallow soil removal and site prep = 10,547 cubic yards exported for impacted soil removal, 4,166 cubic yards exported from wetland site prep excavation, and 260 cubic yards of rip rap import = 14,973 cubic yards total.

Water And Wastewater -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	230.00	130.00
tblGrading	AcresOfGrading	22.50	3.20
tblGrading	MaterialExported	0.00	14,713.00
tblGrading	MaterialImported	0.00	260.00
tblTripsAndVMT	HaulingTripNumber	1,872.00	1,284.00
tblTripsAndVMT	VendorTripNumber	23.00	0.00

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					
2023	1.9159	22.6626	18.7619	0.0523	6.8018	0.7847	7.5865	3.5053	0.7222	4.2276	0.0000	5,318.5949	5,318.5949	1.0835	0.0000	5,345.6811
2024	1.7295	15.1785	18.5327	0.0387	0.8067	0.6201	1.4268	0.2173	0.5832	0.8005	0.0000	3,765.3729	3,765.3729	0.6506	0.0000	3,781.6370
Maximum	**1.9159**	**22.6626**	**18.7619**	**0.0523**	**6.8018**	**0.7847**	**7.5865**	**3.5053**	**0.7222**	**4.2276**	**0.0000**	**5,318.5949**	**5,318.5949**	**1.0835**	**0.0000**	**5,345.6811**

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					
2023	1.9159	22.6626	18.7619	0.0523	6.8018	0.7847	7.5865	3.5053	0.7222	4.2276	0.0000	5,318.5949	5,318.5949	1.0835	0.0000	5,345.6811
2024	1.7295	15.1785	18.5327	0.0387	0.8067	0.6201	1.4268	0.2173	0.5832	0.8005	0.0000	3,765.3729	3,765.3729	0.6506	0.0000	3,781.6370
Maximum	**1.9159**	**22.6626**	**18.7619**	**0.0523**	**6.8018**	**0.7847**	**7.5865**	**3.5053**	**0.7222**	**4.2276**	**0.0000**	**5,318.5949**	**5,318.5949**	**1.0835**	**0.0000**	**5,345.6811**

	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**	**N20**	**CO2e**
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

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	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1057	0.4439	1.3452	5.2200e-003	0.4454	3.8600e-003	0.4493	0.1192	3.5800e-003	0.1228		532.1240	532.1240	0.0249		532.7470
Total	**0.1129**	**0.4439**	**1.3456**	**5.2200e-003**	**0.4454**	**3.8600e-003**	**0.4493**	**0.1192**	**3.5800e-003**	**0.1228**		**532.1247**	**532.1247**	**0.0249**	**0.0000**	**532.7477**

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	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1057	0.4439	1.3452	5.2200e-003	0.4454	3.8600e-003	0.4493	0.1192	3.5800e-003	0.1228		532.1240	532.1240	0.0249		532.7470
Total	**0.1129**	**0.4439**	**1.3456**	**5.2200e-003**	**0.4454**	**3.8600e-003**	**0.4493**	**0.1192**	**3.5800e-003**	**0.1228**		**532.1247**	**532.1247**	**0.0249**	**0.0000**	**532.7477**

	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	N20	CO2e
Percent Reduction	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	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Shallow Soil Removal and Site Preparation	Grading	6/1/2023	8/2/2023	5	45	
2	Stormwater Drain Connection and Treatment System Installation	Building Construction	8/3/2023	11/1/2023	5	65	
3	Wetland Habitat and Landscape Installation	Building Construction	11/2/2023	5/1/2024	5	130	
4	Amenities	Building Construction	5/2/2024	7/31/2024	5	65	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Bowtie Wetland Demonstration - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Shallow Soil Removal and Site Preparation	Excavators	1	8.00	158	0.38
Shallow Soil Removal and Site Preparation	Graders	1	8.00	187	0.41
Shallow Soil Removal and Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Shallow Soil Removal and Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Stormwater Drain Connection and Treatment System Installation	Cranes	1	7.00	231	0.29
Stormwater Drain Connection and Treatment System Installation	Forklifts	3	8.00	89	0.20
Stormwater Drain Connection and Treatment System Installation	Generator Sets	1	8.00	84	0.74
Stormwater Drain Connection and Treatment System Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Stormwater Drain Connection and Treatment System Installation	Welders	1	8.00	46	0.45
Wetland Habitat and Landscape Installation	Rubber Tired Dozers	0		247	0.40
Wetland Habitat and Landscape Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Amenities	Cranes	1	7.00	231	0.29
Amenities	Forklifts	3	8.00	89	0.20
Amenities	Generator Sets	1	8.00	84	0.74
Amenities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Amenities	Welders	1	8.00	46	0.45
Wetland Habitat and Landscape Installation	Cranes	1	7.00	231	0.29
Wetland Habitat and Landscape Installation	Forklifts	3	8.00	89	0.20
Wetland Habitat and Landscape Installation	Generator Sets	1	8.00	84	0.74
Wetland Habitat and Landscape Installation	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Shallow Soil Removal and Site Preparation	6	15.00	0.00	1,284.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Stormwater Drain Connection and Treat	9	59.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Wetland Habitat and Landscape Installation	9	59.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Amenities	9	59.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Shallow Soil Removal and Site Preparation - 2023

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					6.1351	0.0000	6.1351	3.3241	0.0000	3.3241			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1351**	**0.7749**	**6.9101**	**3.3241**	**0.7129**	**4.0370**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

3.2 Shallow Soil Removal and Site Preparation - 2023

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	0.1485	4.6906	1.6215	0.0210	0.4990	8.5000e-003	0.5075	0.1368	8.1300e-003	0.1449		2,287.1316	2,287.1316	0.1503		2,290.8881
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.2051**	**4.7267**	**2.1348**	**0.0226**	**0.6666**	**9.7800e-003**	**0.6764**	**0.1813**	**9.3000e-003**	**0.1906**		**2,445.9039**	**2,445.9039**	**0.1544**		**2,449.7630**

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					6.1351	0.0000	6.1351	3.3241	0.0000	3.3241			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1351**	**0.7749**	**6.9101**	**3.3241**	**0.7129**	**4.0370**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

3.2 Shallow Soil Removal and Site Preparation - 2023

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	0.1485	4.6906	1.6215	0.0210	0.4990	8.5000e-003	0.5075	0.1368	8.1300e-003	0.1449		2,287.1316	2,287.1316	0.1503		2,290.8881
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.2051**	**4.7267**	**2.1348**	**0.0226**	**0.6666**	**9.7800e-003**	**0.6764**	**0.1813**	**9.3000e-003**	**0.1906**		**2,445.9039**	**2,445.9039**	**0.1544**		**2,449.7630**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0487	1.6113	0.4988	5.6700e-003	0.1473	1.8600e-003	0.1491	0.0424	1.7800e-003	0.0442		606.9871	606.9871	0.0319		607.7839
Worker	0.2225	0.1421	2.0191	6.2700e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		624.5044	624.5044	0.0161		624.9077
Total	**0.2712**	**1.7534**	**2.5179**	**0.0119**	**0.8067**	**6.8800e-003**	**0.8136**	**0.2173**	**6.4000e-003**	**0.2237**		**1,231.4915**	**1,231.4915**	**0.0480**		**1,232.6915**

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0487	1.6113	0.4988	5.6700e-003	0.1473	1.8600e-003	0.1491	0.0424	1.7800e-003	0.0442		606.9871	606.9871	0.0319		607.7839
Worker	0.2225	0.1421	2.0191	6.2700e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		624.5044	624.5044	0.0161		624.9077
Total	**0.2712**	**1.7534**	**2.5179**	**0.0119**	**0.8067**	**6.8800e-003**	**0.8136**	**0.2173**	**6.4000e-003**	**0.2237**		**1,231.4915**	**1,231.4915**	**0.0480**		**1,232.6915**

3.4 Wetland Habitat and Landscape Installation - 2023

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Wetland Habitat and Landscape Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2225	0.1421	2.0191	6.2700e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		624.5044	624.5044	0.0161		624.9077
Total	**0.2225**	**0.1421**	**2.0191**	**6.2700e-003**	**0.6595**	**5.0200e-003**	**0.6645**	**0.1749**	**4.6200e-003**	**0.1795**		**624.5044**	**624.5044**	**0.0161**		**624.9077**

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Wetland Habitat and Landscape Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2225	0.1421	2.0191	6.2700e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		624.5044	624.5044	0.0161		624.9077
Total	**0.2225**	**0.1421**	**2.0191**	**6.2700e-003**	**0.6595**	**5.0200e-003**	**0.6645**	**0.1749**	**4.6200e-003**	**0.1795**		**624.5044**	**624.5044**	**0.0161**		**624.9077**

3.4 Wetland Habitat and Landscape Installation - 2024

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Wetland Habitat and Landscape Installation - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2105	0.1296	1.8822	6.0700e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		605.1502	605.1502	0.0148		605.5202
Total	**0.2105**	**0.1296**	**1.8822**	**6.0700e-003**	**0.6595**	**4.9400e-003**	**0.6644**	**0.1749**	**4.5500e-003**	**0.1795**		**605.1502**	**605.1502**	**0.0148**		**605.5202**

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Wetland Habitat and Landscape Installation - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2105	0.1296	1.8822	6.0700e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		605.1502	605.1502	0.0148		605.5202
Total	**0.2105**	**0.1296**	**1.8822**	**6.0700e-003**	**0.6595**	**4.9400e-003**	**0.6644**	**0.1749**	**4.5500e-003**	**0.1795**		**605.1502**	**605.1502**	**0.0148**		**605.5202**

3.5 Amenities - 2024

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.5 Amenities - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0475	1.6052	0.4836	5.6400e-003	0.1473	1.8400e-003	0.1491	0.0424	1.7600e-003	0.0442		604.5238	604.5238	0.0314		605.3092
Worker	0.2105	0.1296	1.8822	6.0700e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		605.1502	605.1502	0.0148		605.5202
Total	**0.2580**	**1.7347**	**2.3659**	**0.0117**	**0.8067**	**6.7800e-003**	**0.8135**	**0.2173**	**6.3100e-003**	**0.2236**		**1,209.6740**	**1,209.6740**	**0.0462**		**1,210.8294**

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.5 Amenities - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0475	1.6052	0.4836	5.6400e-003	0.1473	1.8400e-003	0.1491	0.0424	1.7600e-003	0.0442		604.5238	604.5238	0.0314		605.3092
Worker	0.2105	0.1296	1.8822	6.0700e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		605.1502	605.1502	0.0148		605.5202
Total	**0.2580**	**1.7347**	**2.3659**	**0.0117**	**0.8067**	**6.7800e-003**	**0.8135**	**0.2173**	**6.3100e-003**	**0.2236**		**1,209.6740**	**1,209.6740**	**0.0462**		**1,210.8294**

4.0 Operational Detail - Mobile

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	0.1057	0.4439	1.3452	5.2200e-003	0.4454	3.8600e-003	0.4493	0.1192	3.5800e-003	0.1228		532.1240	532.1240	0.0249		532.7470
Unmitigated	0.1057	0.4439	1.3452	5.2200e-003	0.4454	3.8600e-003	0.4493	0.1192	3.5800e-003	0.1228		532.1240	532.1240	0.0249		532.7470

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	6.05	72.80	53.57	64,378	64,378
Total	6.05	72.80	53.57	64,378	64,378

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

5.0 Energy Detail

Historical Energy Use: N

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Unmitigated	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Total	**7.2100e-003**	**0.0000**	**3.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-004**	**7.0000e-004**	**0.0000**		**7.5000e-004**

6.2 Area by SubCategory

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Total	**7.2100e-003**	**0.0000**	**3.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-004**	**7.0000e-004**	**0.0000**		**7.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Bowtie Wetland Demonstration

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	3.20	Acre	3.20	139,392.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - estimated schedule

Off-road Equipment -

Trips and VMT - 1,284 haul trips for import/export

Grading - Assumed entire 3.2 acre site graded. Shallow soil removal and site prep = 10,547 cubic yards exported for impacted soil removal, 4,166 cubic yards exported from wetland site prep excavation, and 260 cubic yards of rip rap import = 14,973 cubic yards total.

Water And Wastewater -

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	230.00	130.00
tblGrading	AcresOfGrading	22.50	3.20
tblGrading	MaterialExported	0.00	14,713.00
tblGrading	MaterialImported	0.00	260.00
tblTripsAndVMT	HaulingTripNumber	1,872.00	1,284.00
tblTripsAndVMT	VendorTripNumber	23.00	0.00

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					
2023	1.9264	22.6994	18.6266	0.0518	6.8018	0.7849	7.5867	3.5053	0.7225	4.2278	0.0000	5,269.5935	5,269.5935	1.0875	0.0000	5,296.7808
2024	1.7577	15.1853	18.4060	0.0382	0.8067	0.6202	1.4269	0.2173	0.5833	0.8006	0.0000	3,713.7379	3,713.7379	0.6514	0.0000	3,730.0235
Maximum	**1.9264**	**22.6994**	**18.6266**	**0.0518**	**6.8018**	**0.7849**	**7.5867**	**3.5053**	**0.7225**	**4.2278**	**0.0000**	**5,269.5935**	**5,269.5935**	**1.0875**	**0.0000**	**5,296.7808**

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					
2023	1.9264	22.6994	18.6266	0.0518	6.8018	0.7849	7.5867	3.5053	0.7225	4.2278	0.0000	5,269.5934	5,269.5934	1.0875	0.0000	5,296.7808
2024	1.7577	15.1853	18.4060	0.0382	0.8067	0.6202	1.4269	0.2173	0.5833	0.8006	0.0000	3,713.7379	3,713.7379	0.6514	0.0000	3,730.0235
Maximum	**1.9264**	**22.6994**	**18.6266**	**0.0518**	**6.8018**	**0.7849**	**7.5867**	**3.5053**	**0.7225**	**4.2278**	**0.0000**	**5,269.5934**	**5,269.5934**	**1.0875**	**0.0000**	**5,296.7808**

	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**	**N20**	**CO2e**
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

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	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1023	0.4531	1.2799	4.9700e-003	0.4454	3.8700e-003	0.4493	0.1192	3.6000e-003	0.1228		506.5479	506.5479	0.0249		507.1704
Total	**0.1095**	**0.4531**	**1.2802**	**4.9700e-003**	**0.4454**	**3.8700e-003**	**0.4493**	**0.1192**	**3.6000e-003**	**0.1228**		**506.5486**	**506.5486**	**0.0249**	**0.0000**	**507.1711**

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	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1023	0.4531	1.2799	4.9700e-003	0.4454	3.8700e-003	0.4493	0.1192	3.6000e-003	0.1228		506.5479	506.5479	0.0249		507.1704
Total	**0.1095**	**0.4531**	**1.2802**	**4.9700e-003**	**0.4454**	**3.8700e-003**	**0.4493**	**0.1192**	**3.6000e-003**	**0.1228**		**506.5486**	**506.5486**	**0.0249**	**0.0000**	**507.1711**

	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	N20	CO2e
Percent Reduction	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	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Shallow Soil Removal and Site Preparation	Grading	6/1/2023	8/2/2023	5	45	
2	Stormwater Drain Connection and Treatment System Installation	Building Construction	8/3/2023	11/1/2023	5	65	
3	Wetland Habitat and Landscape Installation	Building Construction	11/2/2023	5/1/2024	5	130	
4	Amenities	Building Construction	5/2/2024	7/31/2024	5	65	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Shallow Soil Removal and Site Preparation	Excavators	1	8.00	158	0.38
Shallow Soil Removal and Site Preparation	Graders	1	8.00	187	0.41
Shallow Soil Removal and Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Shallow Soil Removal and Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Stormwater Drain Connection and Treatment System Installation	Cranes	1	7.00	231	0.29
Stormwater Drain Connection and Treatment System Installation	Forklifts	3	8.00	89	0.20
Stormwater Drain Connection and Treatment System Installation	Generator Sets	1	8.00	84	0.74
Stormwater Drain Connection and Treatment System Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Stormwater Drain Connection and Treatment System Installation	Welders	1	8.00	46	0.45
Wetland Habitat and Landscape Installation	Rubber Tired Dozers	0		247	0.40
Wetland Habitat and Landscape Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Amenities	Cranes	1	7.00	231	0.29
Amenities	Forklifts	3	8.00	89	0.20
Amenities	Generator Sets	1	8.00	84	0.74
Amenities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Amenities	Welders	1	8.00	46	0.45
Wetland Habitat and Landscape Installation	Cranes	1	7.00	231	0.29
Wetland Habitat and Landscape Installation	Forklifts	3	8.00	89	0.20
Wetland Habitat and Landscape Installation	Generator Sets	1	8.00	84	0.74
Wetland Habitat and Landscape Installation	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Shallow Soil Removal and Site Preparation	6	15.00	0.00	1,284.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Stormwater Drain Connection and Treat	9	59.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Wetland Habitat and Landscape Installation	9	59.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Amenities	9	59.00	23.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Shallow Soil Removal and Site Preparation - 2023

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					6.1351	0.0000	6.1351	3.3241	0.0000	3.3241			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1351**	**0.7749**	**6.9101**	**3.3241**	**0.7129**	**4.0370**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

3.2 Shallow Soil Removal and Site Preparation - 2023

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	0.1522	4.7236	1.6908	0.0206	0.4990	8.7300e-003	0.5077	0.1368	8.3600e-003	0.1451		2,247.3944	2,247.3944	0.1546		2,251.2584
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.2155**	**4.7635**	**2.1585**	**0.0221**	**0.6666**	**0.0100**	**0.6766**	**0.1813**	**9.5300e-003**	**0.1908**		**2,396.9025**	**2,396.9025**	**0.1584**		**2,400.8627**

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					6.1351	0.0000	6.1351	3.3241	0.0000	3.3241			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1351**	**0.7749**	**6.9101**	**3.3241**	**0.7129**	**4.0370**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

3.2 Shallow Soil Removal and Site Preparation - 2023

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	0.1522	4.7236	1.6908	0.0206	0.4990	8.7300e-003	0.5077	0.1368	8.3600e-003	0.1451		2,247.3944	2,247.3944	0.1546		2,251.2584
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.2155**	**4.7635**	**2.1585**	**0.0221**	**0.6666**	**0.0100**	**0.6766**	**0.1813**	**9.5300e-003**	**0.1908**		**2,396.9025**	**2,396.9025**	**0.1584**		**2,400.8627**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0512	1.6040	0.5432	5.5100e-003	0.1473	1.9600e-003	0.1492	0.0424	1.8700e-003	0.0443		590.5050	590.5050	0.0337		591.3480
Worker	0.2489	0.1572	1.8394	5.9000e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		588.0651	588.0651	0.0151		588.4435
Total	**0.3001**	**1.7612**	**2.3826**	**0.0114**	**0.8067**	**6.9800e-003**	**0.8137**	**0.2173**	**6.4900e-003**	**0.2238**		**1,178.5702**	**1,178.5702**	**0.0489**		**1,179.7914**

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 Stormwater Drain Connection and Treatment System Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0512	1.6040	0.5432	5.5100e-003	0.1473	1.9600e-003	0.1492	0.0424	1.8700e-003	0.0443		590.5050	590.5050	0.0337		591.3480
Worker	0.2489	0.1572	1.8394	5.9000e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		588.0651	588.0651	0.0151		588.4435
Total	**0.3001**	**1.7612**	**2.3826**	**0.0114**	**0.8067**	**6.9800e-003**	**0.8137**	**0.2173**	**6.4900e-003**	**0.2238**		**1,178.5702**	**1,178.5702**	**0.0489**		**1,179.7914**

3.4 Wetland Habitat and Landscape Installation - 2023

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Wetland Habitat and Landscape Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2489	0.1572	1.8394	5.9000e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		588.0651	588.0651	0.0151		588.4435
Total	**0.2489**	**0.1572**	**1.8394**	**5.9000e-003**	**0.6595**	**5.0200e-003**	**0.6645**	**0.1749**	**4.6200e-003**	**0.1795**		**588.0651**	**588.0651**	**0.0151**		**588.4435**

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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Wetland Habitat and Landscape Installation - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2489	0.1572	1.8394	5.9000e-003	0.6595	5.0200e-003	0.6645	0.1749	4.6200e-003	0.1795		588.0651	588.0651	0.0151		588.4435
Total	**0.2489**	**0.1572**	**1.8394**	**5.9000e-003**	**0.6595**	**5.0200e-003**	**0.6645**	**0.1749**	**4.6200e-003**	**0.1795**		**588.0651**	**588.0651**	**0.0151**		**588.4435**

3.4 Wetland Habitat and Landscape Installation - 2024

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Wetland Habitat and Landscape Installation - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2362	0.1433	1.7124	5.7200e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		569.8242	569.8242	0.0139		570.1709
Total	**0.2362**	**0.1433**	**1.7124**	**5.7200e-003**	**0.6595**	**4.9400e-003**	**0.6644**	**0.1749**	**4.5500e-003**	**0.1795**		**569.8242**	**569.8242**	**0.0139**		**570.1709**

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Wetland Habitat and Landscape Installation - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2362	0.1433	1.7124	5.7200e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		569.8242	569.8242	0.0139		570.1709
Total	**0.2362**	**0.1433**	**1.7124**	**5.7200e-003**	**0.6595**	**4.9400e-003**	**0.6644**	**0.1749**	**4.5500e-003**	**0.1795**		**569.8242**	**569.8242**	**0.0139**		**570.1709**

3.5 Amenities - 2024

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.5 Amenities - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0499	1.5982	0.5267	5.4900e-003	0.1473	1.9200e-003	0.1492	0.0424	1.8400e-003	0.0442		588.2148	588.2148	0.0332		589.0450
Worker	0.2362	0.1433	1.7124	5.7200e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		569.8242	569.8242	0.0139		570.1709
Total	**0.2862**	**1.7415**	**2.2391**	**0.0112**	**0.8067**	**6.8600e-003**	**0.8136**	**0.2173**	**6.3900e-003**	**0.2237**		**1,158.0390**	**1,158.0390**	**0.0471**		**1,159.2159**

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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.5 Amenities - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0499	1.5982	0.5267	5.4900e-003	0.1473	1.9200e-003	0.1492	0.0424	1.8400e-003	0.0442		588.2148	588.2148	0.0332		589.0450
Worker	0.2362	0.1433	1.7124	5.7200e-003	0.6595	4.9400e-003	0.6644	0.1749	4.5500e-003	0.1795		569.8242	569.8242	0.0139		570.1709
Total	**0.2862**	**1.7415**	**2.2391**	**0.0112**	**0.8067**	**6.8600e-003**	**0.8136**	**0.2173**	**6.3900e-003**	**0.2237**		**1,158.0390**	**1,158.0390**	**0.0471**		**1,159.2159**

4.0 Operational Detail - Mobile

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	0.1023	0.4531	1.2799	4.9700e-003	0.4454	3.8700e-003	0.4493	0.1192	3.6000e-003	0.1228		506.5479	506.5479	0.0249		507.1704
Unmitigated	0.1023	0.4531	1.2799	4.9700e-003	0.4454	3.8700e-003	0.4493	0.1192	3.6000e-003	0.1228		506.5479	506.5479	0.0249		507.1704

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	6.05	72.80	53.57	64,378	64,378
Total	6.05	72.80	53.57	64,378	64,378

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

5.0 Energy Detail

Historical Energy Use: N

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Unmitigated	7.2100e-003	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Total	**7.2100e-003**	**0.0000**	**3.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-004**	**7.0000e-004**	**0.0000**		**7.5000e-004**

6.2 Area by SubCategory

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-004	7.0000e-004	0.0000		7.5000e-004
Total	**7.2100e-003**	**0.0000**	**3.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-004**	**7.0000e-004**	**0.0000**		**7.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B BIOLOGICAL RESOURCES TECHNICAL REPORT

Bowtie Demonstration Project

Biological Resources Technical Report

January 13, 2023

Prepared for:

The Nature Conservancy
445 South Figueroa Street, Suite 1950
Los Angeles, CA 90071

Prepared by:

Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, California 91361

Prepared by ________________________
(signature)

Diane Narem, Project Biologist

Reviewed by ________________________
(signature)

Stan Glowacki, Senior Biologist

Approved by ________________________
(signature)

Jared Varonin, Senior Principal Biologist/Ecosystems Resource Group Leader

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LIST OF TABLES

LIST OF APPENDICES

Acronyms and Abbreviations

BGEPA	Bald and Golden Eagle Protection Act
BRTR	Biological Resource Technical Report
BSA	Biological Study Area
CCC	California Coastal Commission
CCH	Consortium of California Herbaria
CCMP	California Coastal Management Program
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFS	Cubic Feet Per Second
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DCH	Designated Critical Habitat
ESA	Endangered Species Act
FGC	California Fish and Game Code
FR	Federal Register
GPS	Global Positioning System
JSA	Jurisdictional Survey Area
LA	Los Angeles
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCVII	second edition of *The Manual for California Vegetation*

Acronyms and Abbreviations

NEPA	National Environmental Policy Act
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
RWQCB	Regional Water Quality Control Board
SEA	Significant Ecological Area
Secretary	Secretary of the Interior
SSC	Species of Special Concern
TNC	The Nature Conservancy
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
WOTS	Waters of the State
WOTUS	Waters of the United States

1.0 INTRODUCTION

This Biological Resources Technical Report (BRTR) is intended to document the biological resources that are associated with the Bowtie Parcel Project (Project) located in the City of Los Angeles, California (Appendix A, Figure 1). The surveys conducted and the discussions presented in this BRTR are intended to support planning and regulatory agency permitting and associated documentation. Reconnaissance surveys were conducted by Stantec biologists on November 21, 2022, within accessible portions of the Project Area and within a surrounding 300-foot buffer zone. This approximate 79-acre area is defined as the Biological Study Area (BSA) (Appendix A, Figure 2). This BRTR describes the existing environmental conditions that occur within the BSA and surrounding areas and evaluates the potential for biological resources to occur based on those conditions, with a special emphasis on special-status plant and wildlife species, wildlife corridors, and special-status and sensitive natural communities.

1.1 PROJECT LOCATION

The Project is located in the City of Los Angeles, California, between the communities of Glassel Park and Elysian Valley, approximately 0.5 miles northeast of the I-5 and Glendale Fwy intersection. Specifically, the Project is located within the Bowtie Parcel, a partial concrete post-industrial landscape on the east bank of the Los Angeles River (Figure 1). The Project Area covers the entire parcel, except for a small portion in the northwestern corner that was surveyed for the Bowtie Demonstration Project in May of 2022.

The Project is surrounded by industrial and residential land uses in the north and east, with a few concentrated commercial areas in the vicinity; railroad tracks bordering the east of the Parcel are active for Amtrak, Metrolink and freight trains.

A photographic log is provided in Appendix B which depicts representative environmental conditions within the Project Area.

1.2 PROJECT DESCRIPTION

The Project will be led by The Nature Conservancy in partnership with California State Parks. The Bowtie Parcel is an 18-acre strip of land located on the east bank of the Los Angeles River in northeast Los Angeles and is a sub-unit of Rio de Los Angeles State Park. The purpose of this project is to transform a neglected brownfield into a natural public green space providing the surrounding communities and the greater city of Los Angeles with much-needed outdoor recreation opportunities and access to the Los Angeles River. The property is generally bound by California State Route 2 (SR-2) to the northwest, the Union Pacific Railroad to the north and east, and the Los Angeles River to the south and west. The Bowtie parcel was a part of Taylor Yard, the former headquarters of Southern Pacific Railroad. Taylor Yard is comprised of several parcels and the Bowtie parcel is referenced as the G1 parcel. Vehicles enter the parcel by an entrance off Kerr Street on the northern portion of the Project Area. Project implementation will require soil remediation to address previous site contamination associated with the former use as a railroad maintenance facility. Park improvements would consist of the construction of a park entry, an internal vehicular access road, parking lots, trails and boardwalks, open native grass/turf areas, native habitat plantings, restrooms, a welcome area, and picnic tables and benches. The Bowtie Project will create a direct connection and access to the Glendale Narrows section of the Los Angeles River and complements two additional projects planned for the site by creating and facilitating access among these projects: the Stormwater Demonstration Project (in partnership with the Nature Conservancy) and the Paseo del Rio Riverfront Trail Project (in partnership with the Mountains Recreation and Conservancy Authority and City of Los Angeles).

Additional goals of the Project are to increase outdoor recreational park space to underserved and economically disadvantaged residents in the Project vicinity; provide an experience of urban river and habitat restoration for the local community as well as for the region, nation, and globe; reestablish access to the river for indigenous communities who regard the area as a sacred land; restore and enhance natural habitat along the Los Angeles River, including wetlands, to attract birds and wildlife; provide educational opportunities with respect to historical, cultural, and environmental considerations; and advance the goals of the Statewide Comprehensive Outdoor Recreation Plan (SCORP). Policy documents, including the Rio de Los Angeles General Plan and Los Angeles River Master Plan (LARMP), have acknowledged the need for a reimagined and revitalized Los Angeles River and is a critical component of fulfilling the ecosystem restoration goals identified in the U.S. Army Corps of Engineers (USACE) Los Angeles River Ecosystem Restoration Feasibility Study (ARBOR).

The site includes utility rights of way and easements held the City of Los Angeles, LA County Flood Control District, Southern Pacific Telecommunications Company, and Southern Pacific Railroad. Due diligence research shows these easements do not impact the ability to develop the Bowtie as a natural open space park and they can be integrated seamlessly into the design of the park.

Because the Bowtie is located along the Pacific Flyway, a critical migratory bird path, the park's plant palette will be predominately native with an emphasis on habitat for wildlife. Park infrastructure will include utilities, lighting, fencing, and security measures.

2.0 METHODOLOGIES

This biological resources assessment of the BSA included, but was not limited to, a literature review, reconnaissance-level survey, non-protocol survey to detect the presence of special-status plant and wildlife species, and a non-protocol avian survey to document the presence of birds, including federal and state threatened or endangered listed species, if present. Stantec Biologists conducted the initial reconnaissance-level surveys on November 21, 2022. Prior to the survey, a preliminary literature review of readily available resources was performed. The survey was conducted on foot within the BSA, where accessible, based on terrain and availability of public access.

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to the field survey. The BSA is located within the USGS Venice, California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted in the BSA and a surrounding 10-mile buffer area to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW 2022). The database included portions of the following quadrangles surrounding the BSA:

- Beverly Hills
- Burbank
- Condor Peak
- Inglewood
- Hollywood
- Los Angeles
- South Gate
- Whittier
- Pasadena
- Mt Wilson
- El Monte
- Sunland
- Van Nuys

Stantec obtained a list of federally listed species and species that are proposed or are candidates for federal listing with the potential to occur in the vicinity of the Project Area, using the Information for Planning and Consultation tool on December 9, 2022. Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2022b)
- Special Animals List (CDFW 2022c)
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2022d)
- California Sensitive Natural Communities (CDFW 2021)
- Inventory of Rare and Endangered Vascular Plants of California (CNPS 2022)
- Consortium of California Herbaria (CCH 2022)

2.2 BIOLOGICAL SURVEYS AND HABITAT ASSESSMENT

2.2.1 Site Reconnaissance and Wildlife Surveys

Stantec conducted a habitat assessment and reconnaissance-level surveys to document the environmental conditions present within the BSA. The primary goal of these initial surveys was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and determine the potential need for additional focused surveys for special-status resources. Biologists recorded all incidental plant and wildlife observations. However, this assessment did not include focused, protocol-level surveys for rare plants or wildlife or other special-status resources.

The survey was conducted on November 21, 2022, during a season and time of day when resident and migratory birds would be expected to be present and exhibiting normal activity, small mammals would be active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. Furthermore, some bird species normally present during the summer may not have been present because of their winter migratory behavior. The survey was conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 65-95 degrees Fahrenheit).

The BSA was investigated on foot (where accessible) by experienced field biologists walking throughout publicly accessible areas at an average pace of approximately one mile per hour while visually scanning for wildlife and their sign and listening to wildlife songs and calls. Biologists paused as necessary to listen for wildlife or to identify, record, or enumerate any observed species. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.). Species identifications conform to the most up-to-date field guides and technical literature.

2.2.2 Vegetation Mapping

Vegetation descriptions and nomenclature are based on the second edition of *A Manual of California Vegetation* (MCVII) (Sawyer et al. 2009), where applicable, and have been defined to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the ESRI Collector for ArcGIS app on an Apple iPad coupled with a Bad Elf GNSS Surveyor sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ESRI ArcGIS (version 10.7) with aerial photograph base maps with an accuracy of 1 foot. Most boundaries shown on the maps are accurate within approximately 3 feet; however, boundaries between some vegetation types are less precise due to difficulties in interpreting aerial imagery and accessing stands of vegetation.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. All vegetation maps and descriptions are subject to variability for the following reasons:

In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to integrate on the landscape, without precise boundaries between them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.

Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the best name available in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.

Vegetation tends to be patchy. Small patches of one named type are often included within larger stands mapped as units of another type.

2.2.3 Aquatic Resources

A formal jurisdictional waters delineation per US Army Corps of Engineers (USACE) guidelines was not conducted as part of this assessment. The BSA was evaluated for potential waters subject to jurisdiction pursuant to Section 1600 et seq. of the California Fish and Game Code (FGC), California Regional Water Quality Control Boards (RWQCB) regulations (Clean Water Act [CWA] Section 401 and Porter-Cologne Water Quality Control Act Waste Discharge Requirement), and United States Army Corps of Engineers (USACE) CWA Section 404 regulations. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA, 2020), local and state hydric soils lists, and the National Wetlands Inventory (USFWS, 2020a) to evaluate the potential active channels and wetland features that occur within the BSA. During the field assessment, hydrologic features were noted and mapped later via aerial imagery. Field data were further manipulated in the office using GIS. The results of the assessment are summarized below in Section 4.4.

3.0 REGULATORY ENVIRONMENT

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

Federal Endangered Species Act (FESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful "take" and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of Designated Critical Habitat (DCH). Under FESA, take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The U.S. Fish and Wildlife Service (USFWS) regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 Code of Federal Regulations [CFR] Section 17.3).

DCH is defined in FESA Section 3(5)(A) as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features: (I) essential to the conservation of the species; (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species." The effects analyses for DCH must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*.

Activities that may result in "take" of listed species are regulated by USFWS. USFWS produced an updated list of candidate species December 2, 2016 (81 Federal Register [FR] 87246). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code [USC] 703-711) makes it unlawful to possess, buy, sell, purchase, barter or take any migratory bird listed in Title 50 of CFR Part 10. Take is defined as possession or destruction of migratory birds, their nests, and eggs. Disturbances that cause nest abandonment or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. The MBTA encompasses whole birds, parts of birds, bird nests, and eggs.

3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior’’ (72 FR 31132; 50 CFR 22.3).

USFWS is the primary federal authority charged with the management of golden eagles in the U.S. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required for this Project. USFWS guidance on the applicability of current BGEPA statutes and mitigation is currently under review. On November 10, 2009, the USFWS updated rules (74 FR 46835) governing the take of golden and bald eagles. The new rules were released under the existing BGEPA, which has been the primary regulatory protection for unlisted eagle populations since 1940.

All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. If a permit is required, due to the current uncertainty on the status of golden eagle populations in the western U.S., it is expected that permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.4 Federally Regulated Habitats

Areas that meet the regulatory definition of “waters of the United States” are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (CWA) (1972). “Navigable waters of the United States” are subject to jurisdiction under Section 10 of the RHA (1899). WOTUS may include all waters used or potentially used for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (e.g., intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as WOTUS, tributaries of waters otherwise defined as WOTUS, territorial seas, and wetlands (i.e., “Special Aquatic Sites”) adjacent to WOTUS (33 CFR, Section 328.3).

Construction activities within WOTUS are regulated by USACE. For example, the placement of fill into such waters must comply with permit requirements of USACE. No USACE permit would be effective in the absence of State Water Quality Certification pursuant to Section 401 of the CWA. As a part of the permit process, the USACE works directly with the USFWS to assess potential project impacts on biological resources.

3.1.5 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires all federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA into other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision-making. NEPA requires federal agencies to review and comment on federal agency environmental plans and documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 USC 4321- 4327; 40 CFR 1500-1508).

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant and avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the CEQA Guidelines published by the California Natural Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects.

3.2.2 California Endangered Species Act

Provisions of the California Endangered Species Act protect state-listed threatened and endangered species. The CDFW regulates activities that may result in take of individuals (i.e., take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code (FGC). Additionally, the FGC contains lists of vertebrate species designated as “fully protected” (FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and State-listed species, the CDFW also has produced a list of Species of Special Concern (SSC), Fully Protected (FP), and Watch List (WL) species to serve as a “watch list.” Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. SSC may receive special attention during environmental review, but they do not have statutory protection. Fully Protected species may not be possessed or taken under any circumstances, and no incidental take permits are issued by CDFW for “take” of these species.

Birds of prey are protected in California under the FGC. FGC Section 3503.5 states that it is “unlawful to ‘take’, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to ‘take’, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW. Under Sections 3503 and 3503.5 of the FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited.

3.2.3 Section 1602 of the California Fish and Game Code

Section 1602 of the FGC requires any person, state or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW would determine whether the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) would be required. A completed CEQA document must be submitted to CDFW before an LSAA would be issued.

3.2.4 Porter-Cologne Water Quality Control Act

California Regional Water Quality Control Boards (RWQCBs) regulate the “discharge of waste” to “waters of the state” (WOTS). All projects proposing to discharge waste that could affect WOTS must file a Waste Discharge Report with the appropriate RWQCB. The board responds to the report by issuing Waste Discharge Requirements or by waiving them for that project discharge. Both terms “discharge of waste” and WOTS are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other “discharge.” Isolated wetlands within California, which are no longer considered WOTUS, as defined by Section 404 of the CWA, are addressed under the Porter Cologne Water Quality Control Act. The Project Area falls under the jurisdiction of the Region 4 – Los Angeles RWQCB.

3.2.5 State-Regulated Habitats

The California State Water Resources Control Board is the state agency (together with the RWQCBs) charged with implementing water quality certification in California. See section 3.1.6 above.

3.2.6 Native Plant Protection Act

Under FGC Sections 1900 to 1913, the Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. A project applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and sections of CEQA that apply to rare or endangered plants.

3.3 LOCAL REGULATIONS

3.3.1 Los Angeles County General Plan – Chapter 9, Conservation and Natural Resources Element

3.3.1.1 Open Space Resources Component

The Open Space Resources Component of the Conservation and Natural Resources Element of the Los Angeles County General Plan contains policies and programs that are designed to preserve and manage dedicated open space areas through preservation, acquisition, and easements.

The Goals and Policies relative to natural resources that apply to the BSA are as follows:

> ***Goal 1:*** *Open space areas that meet the diverse needs of Los Angeles County*

>> ***Policy 1.2****: Protect and conserve natural resources, natural areas, and available open spaces*

>> ***Policy C/NR 1.4****: Create, support and protect an established network of dedicated open space areas that provide regional connectivity, between the southwestern extent of the Tehachapi Mountains to the Santa Monica Mountains, and from the southwestern extent of the Mojave Desert to Puente Hills and Chino Hills.*

>> ***Policy 1.5****: Provide and improve access to dedicated open space and natural areas for all users that considers sensitive biological resources*

3.3.1.2 Biological Resources Component

The Biological Resources Component of the Conservation and Natural Resources Element of the Los Angeles County General Plan contains policies and practices which are designed to preserve biotic diversity, monitor Significant Ecological Areas (SEAs), and coordinate environmental protection.

The Goals and Policies relative to biological resources that apply to the BSA are as follows:

> ***Goal 3:*** *Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and SEAs.*

>> ***Policy 3.3****: Restore upland communities and significant riparian resources, such as degraded streams, rivers, and wetlands to maintain ecological function- acknowledging the importance of incrementally restoring ecosystem values when complete restoration is not feasible.*

>> ***Policy 3.6****: Assist state and federal agencies and other agencies, as appropriate, with the preservation of special status species and their associated habitat and wildlife movement corridors through the administration of the SEAs and other programs.*

***Policy 3.7**: Participate in inter-jurisdictional collaborative strategies that protect biological resources.*

3.3.1.3 Local Water Resources Component

The Local Water Resources Component of the Conservation and Natural Resources Element of the Los Angeles County General Plan contains policies and practices that are designed to effectively manage and preserve invaluable local water resources.

The Goals and Policies relative to local water resources that apply to the BSA are as follows:

***Goal 5:** Protected and useable local surface water resources.*

***Policy 5.4**: Actively engage in implementing all approved Enhanced Watershed Management Programs/Watershed Management Programs and Coordinated Integrated Monitoring Programs/ Integrated Monitoring Programs or other County-involved TMDL implementation and monitoring plans.*

***Policy 5.6**: Minimize point and non-point source water pollution.*

***Policy 5.7**: Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals.*

***Goal 7**: Protected and healthy watersheds.*

***Policy 7.1**: Support the LID philosophy, which mimics the natural hydrologic cycle using undeveloped conditions as a base, in public and private land use planning and development design.*

***Policy 7.2**: Support the preservation, restoration, and strategic acquisition of available land for open space to preserve watershed uplands, natural streams, drainage paths, wetlands, and rivers, which are necessary for the healthy function of watersheds*

***Policy 7.3**: Actively engage with stakeholders to incorporate the LID philosophy in the preparation and implementation of watershed and river master plans, ecosystem restoration projects, and other related natural resource conservation aims, and support the implementation of existing efforts, including Watershed Management Programs and Enhanced Watershed Management Programs.*

***Policy 7.4**: Promote the development of multi-use regional facilities for stormwater quality improvement, groundwater recharge, detention/attenuation, flood management, retaining non-stormwater runoff, and other compatible uses.*

3.3.2 City of Los Angeles General Plan

The City of Los Angeles General Plan provides a comprehensive long-range view of the city and includes a Land Use Element that is made up of 35 community plans and 10 technical elements. The pertinent technical elements include a Conservation Element and an Open Space Element.

3.3.2.1 Conservation Element

The Conservation Element primarily addresses preservation, conservation, protection, and enhancement of the City's natural resources. The natural resources or processes that should be or are subject to preservation, conservation, protection, and enhancement efforts include endangered species, erosion, habitats, and open space and parks. In addition, the Conservation Element identifies applicable regulations and the Conservation Element policies with regard to each type of resource.

3.3.2.2 Open Space Element

The Open Space Element consists of an Open Space Plan that serves to guide the identification, preservation, conservation, and acquisition of open space within the City of Los Angeles. The Open Space Plan was adopted in 1973; an update is pending. The BSA supports several of the characteristics used to define "Open Space" in the Open Space Element of the City's General Plan. Specifically, it provides "opportunities for recreation and education", preserves scenic, cultural or historic values, conserves or preserves natural resources or ecologically important areas, and protects or preserves lands for managed production of natural resources.

3.4 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.4.1 California Native Plant Society Rare Plant Program

The mission of the California Native Plant Society (CNPS) Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) is entered into the online CNPS Rare Plant Inventory and given a California Rare Plant Rank (CRPR). The Rare Plant Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under state endangered species legislation, are defined by the following CRPRs:

- CRPR 1A: Plants considered by the CNPS to be extinct in California
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3: Plants about which we need more information – a review list
- CRPR 4: Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 0.1 to 0.3 ranking, with 0.1 being the most endangered and 0.3 being the least endangered and are described as follows:

- 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 very threatened in California (low degree or immediacy of threats or no current threats known)

4.0 EXISTING CONDITIONS

4.1 SETTING

As depicted in Figures 1 and 2 in Appendix A, the BSA is located between the communities of Glassel Park and Elysian Valley, approximately 0.5 miles northeast of the I-5 and Glendale Fwy intersection. Specifically, the Project is located at the Bowtie Parcel, a partial concrete post-industrial landscape on the east bank of the Los Angeles River. The parcel is approximately 3,800 feet long, and is slightly curved, following a bend in the Los Angeles River. The parcel is wider at the ends, which gives it the approximate shape of a bowtie (see Appendix A: Figures 1 and 2. The elevation of the BSA is approximately 320 ft to 370 ft above sea level.

The Project is surrounded by industrial and residential land uses in the north and east, with a few concentrated commercial areas in the vicinity; railroad tracks bordering the east of the Parcel are active for Amtrak, Metrolink and freight trains.

A photographic log is provided in Appendix B which depicts representative environmental conditions within the Project Area.

4.2 VEGETATION AND LAND COVERS

As defined in MCVII, a vegetation alliance is “a category of vegetation classification which describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors” (Sawyer et al. 2009).

Within the BSA, Stantec biologists mapped four plant community defined by Sawyer et al. (2009), one novel plant community and two land cover types. These are described below, summarized in Table 1, and depicted in Figure 3 included in Appendix A.

Table 1: Vegetation Communities and Land Cover Types Occurring within the Biological Study Area and Impacts

Vegetation Community/Land Cover Type	Habitat Type	Acreage within BSA	Acreage of Permanent Project Impacts	Acreage of Temporary Project Impacts
Fountain grass swards	Upland	11.77	8.56	0.00
Gooding's willow – red willow riparian woodland and forest	Riverine	2.67	0.00	0.00
Ornamental non-native	Upland	3.58	0.39	0.00
California buckwheat scrub	Upland	0.94	0.35	0.00
Deerweed – silver lupine – yerba santa scrub	Upland	0.10	0.02	0.00
Disturbed/Developed	Upland	46.88	4.74	0.00
Open water	Riverine	4.88	0.00	0.00
Total		79.59		

4.2.1 Vegetation Communities and Land Cover Types

4.2.1.1 Vegetation Communities

Fountain grass swards; *Pennisetum setaceum – Pennisetum ciliare* Herbaceous Semi-Natural Alliance

Vegetation characteristic of the *Pennisetum setaceum – Pennisetum ciliare* herbaceous seminatural alliance was mapped throughout the Project Area. The applicable membership rule for this alliance is *Pennisetum* spp. > 50% relative cover in herbaceous layer and combined with other non-native plants > 90% relative cover. In the BSA, this alliance is dominated by crimson fountaingrass (*Pennisetum setaceium*). Other species that occur within this community include Mexican fan palm (*Washingtonia robusta*),coyote brush (*Baccharis pilularis*), deerweed (*Lotus scoparius*), and mulefat (Baccharis salicifolia). There are occasional clumps of California buckwheat (*Eriogonum fasciculatum*) throughout this community; however, the clumps are not large enough to map as their own community. Mexican fan palm becomes dominant in some areas where this community transitions to Mexican fan palm scrub, a novel plant community described below.

Gooding's willow -red willow riparian woodland and forest; *Salix gooddingii - Salix laevigata* Forest & Woodland Alliance

Vegetation characteristic of the *Salix gooddingii – Salix laevigata* forest and woodland alliance was mapped within the Los Angeles River in the southern portion of the BSA. The applicable membership rule for this alliance is *Salix gooddingii* and/or *Salix laevigata* > 50% relative cover in the tree canopy. This alliance is considered a state-sensitive vegetation community and has a State Rarity Rank of S3 (Sawyer et al. 2009). In the BSA, this alliance is dominated by red willow (*Salix laevigata*) in the open tree canopy with white mulberry (*Morus alba*) occurring occasionally. The shrub layer is sparse to absent. In the understory, there is a variety of wetland and riparian plants, including cattail (*Typhus* sp.), bulrushes (*Schoenoplectus* sp.), and spotted ladysthumb (*Persicaria maculosa*).

California buckwheat scrub; *Eriogonum fasciculatum* Shrubland Alliance

Vegetation characteristic of the *Eriogonum fasiculatum* shrubland alliance was mapped adjacent to the concrete canal embankment just south of the Project site within the BSA. The applicable membership rule for this alliance is California buckwheat (*Eriogonum fasciculatum*) > 50% relative cover in the shrub canopy; other shrubs, if present, < 50% relative cover. In the BSA, California buckwheat dominates the shrub canopy. Other shrubs include California sage (*Artemisia californica*), bush sunflower (*Encelia californica*), and white sage (*Salvia apiana*). Shrubs is less than < 2 m in height and shrub canopy is continuous. The herbaceous layer is variable but has grasses. Crimson fountaingrass and Mexican fan palms also occur within this alliance. Due to the fact only native plant species were observed in this area, intermixed with the surrounding non-native plant species, this alliance appears to have been planted or seeded at some point in recent history.

Deerweed – silver lupine – yerba santa scrub; *Lotus scoparius - Lupinus albifrons - Eriodictyon* spp. Shrubland Alliance

Vegetation characteristic of the *Lotus scoparius – Lupinus albifrons – Eriodictyon* spp. shrubland alliance was mapped adjacent to the concrete canal embankment. The applicable membership rule for this alliance is thick leaved yerba santa (*Eriodictyon crassifolium*) > 50% relative cover the shrub canopy with low to moderate cover. In the BSA this plant community is heavily dominated by thick leaved yerba santa in the shrub layer along with the occasional white sage. A few Mexican fan palms are found in the tree layer. Crimson fountain grass is found throughout the herbaceous layer.

Ornamental Non-native

This land cover type was used to describe landscaped areas within the buffer around the Project Area that were observed from the edge of the Project Area and through aerial imagery and to describe disturbed areas in the parcel where non-native ornamental plants had volunteered. The landscaped areas were observed from a distance from the edges of the study area and is not described in detail. The disturbed areas consist of various ornamental and non-native plants such as Brazilian peppertree (*Schinus terebinthifolia*), common fig (*Ficus carica*), acacias (*Acacia* sp.), and tree tobacco (*Nicotiana glauca*)in the tree layer, and star thistle (*Centaurea solstitialis*), crimson fountaingrass, and California buckwheat occurring in the herbaceous layer.

Disturbed/Developed

This landcover type was mapped where there was compacted soil, gravel, concrete cover or buildings.

4.2.2 Common Plant Species Observed

Plants observed during the May 26, 2022, reconnaissance-level surveys were recorded; however, a focused, floristic-level survey was not conducted. The reconnaissance-level surveys resulted in the documentation of 38 species of native and non-native plants within the BSA, a detailed list of which is provided in Table 2.

Table 2: Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
ANACARDIACEAE	**CASHEW FAMILY**
Malosma laurina	laurel sumac
Schinus terebinthifolia	Brazilian pepper tree*
APIACEAE	**CARROT FAMILY**
Apium graveolens	garden celery*
Conium maculatum	poison hemlock*
ASTERACEAE	**ASTER FAMILY**
Artemisia californica	California sagebrush
Baccharis pilularis	coyote brush
Baccharis salicifolia	mulefat
Centaurea solstitialis	star thistle*
Encelia californica	bush sunflower
Erigeron canadensis	horseweed
Heterotheca grandiflora	telegraph weed
Isocoma menziesii	Menzies’ goldenbush
Lactuca serriola	prickly lettuce*
Malacothrix saxatilis	cliff aster
Pseudognaphalium californicum	California cudweed
Salvia apiana	white sage
Sonchus oleraceus	common sow thistle*
Xanthium strumarium	rough cockleburr
BRASSICACEAE	**CABBAGE FAMILY**
Brassica nigra	black mustard*
Hirschfeldia incana	short podded mustard*
EUPHORBIACEAE	**SPURGE FAMILY**
Ricinus communis	castor bean*
FABACEAE	**PEA FAMILY**
Acacia redolens	bank catclaw
Acmispon glaber	deerweed
Melilotus officinalis	yellow sweetclover*
Parkinsonia aculeata	retama*

Vachellia schaffneri	Schaffner's acacia*
BORAGINACEAE	**BORAGE FAMILY**
Eriodictyon crassifolium	thick leaved yerba santa
MORACEAE	**FIG FAMILY**
Ficus pumila	climbing fig*
Ficus carica	common fig*
Morus alba	white mulberry*
ONAGRACEAE	**PRIMROSE FAMILY**
Ludwigia peploides	floating water primrose*
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum fasciculatum	California buckwheat
Persicaria maculosa	spotted ladysthumb*
SALICACEAE	**WILLOW FAMILY**
Salix lasiolepis	red willow
SOLANACEAE	**POTATO FAMILY**
Nicotiana glauca	tree tobacco*
ARECACEAE	**PALM FAMILY**
Washingtonia robusta	Mexican fan palm*
CYPERACEAE	**SEDGE FAMILY**
Cyperus eragrostis	tall flat sedge*
Schoenoplectus californicus	California bulrush
Schoenoplectus americanus	American three-square bulrush
POACEAE	**GRASS FAMILY**
Arundo donax	giant reed*
Pennisetum setaceum	crimson fountaingrass*
Polypogon monspeliensis	rabbitsfoot grass*
TYPHACEAE	**CATTAIL FAMILY**
Typha sp.	cattail sp.

* Non-native Species

4.3 COMMON WILDLIFE

This section describes the common wildlife observed during the reconnaissance survey and those wildlife species expected to occur within the BSA based on habitat characteristics, previous studies, surveys of the northwestern corner of the Bowtie Parcel conducted by Stantec on May 26, 2022, and species known to occur in the region.

4.3.1 Terrestrial Invertebrates

As in all ecological systems, invertebrates inhabiting the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the BSA provide a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the BSA for this Project. During the field reconnaissance two insects were observed, the honeybee (*Apis mellifera*) and a harvester ant species (*Pogonomyrmex* sp.) however, a variety of other common insects were observed during the previous reconnaissance survey of the northwestern corner of the Bowtie Parcel Project conducted by Stantec on May 26, 2022. These included honeybee (*Apis mellifera*), flame skimmer dragonfly (*Libellula saturata*), cloudless sulphur butterfly (*Phoebis sennae*), cabbage white butterfly (*Pieris rapae*), Argentine ant (*Linepithema humile*), and water strider (Gerridae family). Focused insect surveys were performed within the Los Angeles River and in other upland areas near the Bowtie Parcel for TNC in 2014 and 2015. These insect surveys found 102 different families of insects (TNC 2016).

4.3.2 Fish

There were no fish observed in the Los Angeles River during the survey. In the previous reconnaissance survey of the northwestern corner of the Bowtie Parcel conducted by Stantec on May 26, 2022, common carp (*Cyprinus carpio*) and an unknown bass species (Centrarchidae family) that could not be identified because it was being eaten by a great blue heron at the time of observation were observed. Although not observed during the survey, other non-native fish species observed during previous surveys and known to occur in the Glendale Narrows portion of the Los Angeles River include fathead minnow (*Pimephales promelas*), black bullhead (*Ameriurus melas*), amazon sailfin catfish (*Pteroplichthys pardalis*), mosquitofish (*Gambusia affinis*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*) and tilapia (*Oreochromis* sp.) (FOLAR 2008, TNC 2016). No native fish species historically occupying the Glendale Narrows portion of the Los Angeles River remain in the river, based on results from recently performed fish surveys (TNC 2016).

4.3.3 Amphibians

Amphibians typically require a source of standing or flowing water to lay their egg masses and to complete their life cycle. However, some terrestrial amphibian species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These amphibian species are highly cryptic and often difficult to detect.

No amphibians were observed during the reconnaissance survey; however, the survey was performed during the day when frogs are typically inactive and are not calling. Therefore, it is not unexpected that other amphibian species were not observed during the reconnaissance survey. During the previous reconnaissance survey of the northwestern corner of the Bowtie Parcel conducted by Stantec on May 26, 2022, a western toad (*Anaxyrus boreas*) was observed.

Other amphibians known to occur within the Los Angeles River watershed include Pacific chorus frog (*Pseudacris regilla*), California tree frog (*Pseudacris cadaverina*) and non-native American bullfrog (*Lithobates catesbeianus*). Focused surveys for amphibians performed in 2015 for TNC's Los Angeles River Study recorded western toad, as well as Pacific chorus frog and American bullfrog in the river near the BSA (TNC 2016).

4.3.4 Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their behavioral characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during most surveys. Furthermore, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most species take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases, they are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

The only reptile observed during the site reconnaissance was the common side-blotched lizard (*Uta stansburiana*). In the previous reconnaissance survey conducted by Stantec on May 26, 2022, western fence lizard (*Sceloporus occidentalis*) was observed. Other species of reptile known to occur within the Los Angeles River watershed include Western pond turtle (*Actinemys marmorata*), red-eared slider (*Trachemys scripta elegans*), southern alligator lizard (*Elgaria multicarinata*), western whiptail (*Aspidoscelis tigris*), striped racer (*Masticophis lateralis*), gopher snake (*Pituophis catenifer*), california king snake (*Lampropeltis californiae*), and Western rattlesnake (*Crotalus oreganus*).

Focused surveys for reptiles performed in 2015 for TNC's LA River Study (TNC 2016), which included 12 daytime surveys and one night survey, recorded western fence lizards, as well as side blotched lizards and southern alligator lizards within the Bowtie Parcel, and red-eared slider turtles in the Los Angeles River corridor. Side blotched lizards were not found in other areas outside of the Bowtie Parcel during the 2015 reptile surveys.

4.3.5 Birds

Birds were identified by sight and were observed throughout the BSA, especially birds associated with the Los Angeles River corridor. Bird species observed within the river corridor included mallard duck (*Anas platyrhynchos*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), American coot (*Fulica americana*), hooded merganser (*Lophodytes cucullatus*), double-crested cormorant (*Nannopterum auritum*), belted kingfisher (*Megaceryle alcyon*), osprey (*Pandion *haliaetus*), and black-necked stilt (*Himantopus mexicanus*). Upland bird species observed included black phoebe (*Sayornis nigricans*), Cooper's hawk (*Accipiter cooperii*), American crow (*Corvus brachyrhynchos*), and northern mockingbird (*Mimus polyglottus*).

Other bird species that were observed during the previous reconnaissance survey conducted by Stantec on May 26, 2022, include snowy egret (*Egretta thula*), killdeer (*Charadrius vocieferus*), hermit thrush (*Catharus guttatus*), black-crowned night heron (*Nycticorax nycticorax*), California gull (*Larus californicus*), Allen's hummingbird (*Selasphorus sasin*), Anna's hummingbird (*Calypte anna*), rock pigeon (*Columba livia*), common raven (*Corvus corax*), common yellowthroat (*Geothlypis trichas*), house finch (*Haemorhous mexicanus*), barn swallow (*Hirundo rustica*), scaley-breasted munia (*Lonchura punctulata*), song sparrow (*Mesospiza melodia*), house sparrow (*Passer domesticus*), cliff swallow (*Petrochelidon pyrrhonota*), yellow-rumped warbler (*Setophaga coronata*), yellow warbler (*Setophaga petechia*), lesser goldfinch (*Spinus psaltria*), northern rough-winged swallow (*Stelgidopteryx serripennis*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*).

Focused bird surveys for TNC's LA River Study were performed for several months in 2015 at Marsh Park, which is across the river south of the Bowtie Parcel. Most of the same common bird species were observed during TNC surveys compared to the Stantec reconnaissance surveys. Other bird species recorded during TNC's LA River Study included hooded oriole (*Oriolus xanthornus*), ruby-crowned kinglet (*Corthylio calendula*), orange-crowned warbler (*Leiothlypis celata*), black-chinned hummingbird (*Archilochus alexandri*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), and brown-headed cowbird (*Molothrus ater*) (TNC 2016). Because many of the bird species found in the Los Angeles River corridor are migratory and the Los Angeles River is within the Pacific Flyway avian migratory corridor, bird species diversity near the Bowtie Parcel is remarkably high, and the bird species present in the BSA will change throughout the year.

4.3.6 Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas).

No terrestrial mammal species were observed during the surveys. During the May 26, 2022, reconnaissance survey of the northern portion of the Bowtie Parcel, ground squirrel (*Otospermophilus beecheyi*) and cottontail rabbit (*Sylvilagus* sp.) were observed. Other mammals not observed during the reconnaissance survey that are tolerant of urban spaces and known to occur in the Los Angeles region include raccoon (*Procyon lotor*), opossum (*Deidelphis virginiana*), striped skunk (*Mephitis mephitis*), and coyote (*Canis latrans*). Most of these species were observed or photographed (using trail cameras) near the Bowtie Parcel during TNC LA River Study (TNC 2016).

4.3.6.1 Bat Habitat

No bat surveys were performed within the Project Area. However, a bat habitat assessment was performed during the foot surveys. Suitable bat roosting habitat within the Project Area consisted of several untrimmed palm trees near the northern entrance gate to the property and the middle section of the parcel. The untrimmed palm trees would be suitable for tree roosting bats such as the western yellow bat (*Lasiurus xanthinus*). No bat guano or other bat sign was observed near the base of the palm trees.

Although no bat surveys were performed within the Bowtie Parcel in November 2022, bat emergence surveys were conducted near the northern portion of the Bowtie Parcel by Stantec biologists on May 26, 2022. No bats were detected during the May 26 survey. However, bats are common in the Los Angeles River corridor for much of the year and are known to use the Los Angeles River corridor for foraging and for roosting on the numerous bridges over the river (S. Glowacki; Stantec; pers. obs., Remington and Cooper 2014, TNC 2016). As Part of TNC's LA River Study, bat detectors were placed on the Sunnynook Pedestrian Bridge approximately two miles upstream of the Bowtie parcel for several weeks in late summer 2015. Five species of bats were detected during the study, and all have previously been documented in the Los Angeles County area. The most frequently detected bat species was the Yuma myotis (*Myotis yumanensis*), followed by the Mexican free-tailed bat (*Tadarida brasiliensis*) (TNC 2016). Less common bat species detected included the California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*) and big brown bat (*Eptesicus fuscus*) (TNC 2016).

All wildlife species observed within the BSA in May 2022 and November 2022 are summarized in Table 3.

Table 3: Wildlife Species Observed in the BSA

Scientific Name	Common Name	Native Status
INVERTEBRATES		
Apis mellifera	honeybee	non-native
*Gerridae family**	water strider	native
*Libellula saturate**	flame skimmer dragonfly	native
*Phoebis sennae**	cloudless sulphur butterfly	native
*Pieris rapae**	cabbage white butterfly	non-native
Pogonomyrmex sp.	carpenter ant	native
REPTILES		
*Sceleporous occidentalis**	western fence lizard	native
Uta stansburiana	common side-blotched lizard	native
BIRDS		
Accipiter cooperii	Cooper's hawk	native
Anas platyrhynchos	mallard duck	native
Ardea alba	great egret	native
Ardea herodias	great blue heron	native
Branta canadensis	Canada goose	native
*Calypte anna**	Anna's hummingbird	native
*Catharus guttatus**	hermit thrush	native

*Charadrius vociferus**	killdeer	native
*Columba livia**	rock pigeon	non-native
Corvus brachyrhynchos	American crow	native
*Corvus corax**	common raven	native
Egretta thula	snowy egret	native
Fulica americana	American coot	native
*Geothlypis trichas**	common yellowthroat	native
*Haemorhous mexicanus**	house finch	native
Himantopus mexicanus	black-necked stilt	native
*Hirundo rustica**	barn swallow	native
*Larus californicus**	California gull	native
*Lonchura punctulate**	nutmeg mannikin	non-native
Lophodytes cucullatus	hooded merganser	native
Megaceryle alcyon	belted kingfisher	native
*Mesospiza melodia**	song sparrow	native
Mimus polyglottus	northern mockingbird	native
Nycticorax nycticorax	black-crowned night heron	native
Pandion haliaetus	osprey	native
*Passer domesticus**	house sparrow	non-native
*Petrochelidon pyrrhonota**	cliff swallow	native
Sayornis nigricans	black phoebe	native
*Selasphorus sasin**	Allen's hummingbird	native
*Setophaga coronate**	yellow-rumped warbler	native
*Setophaga petechia**	yellow warbler	native
*Spinus psaltria**	lesser goldfinch	native
*Sturnus vulgaris**	European starling	non-native
*Stelgidopteryx serripennis**	northern rough-winged swallow	native
*Zenaida macroura**	mourning dove	native
MAMMALS		
*Otospermophilus beecheyi**	ground squirrel	native
*Sylvilagus sp.**	cottontail rabbit	native

* Denotes species observed on May 26, 2022

4.4 AQUATIC RESOURCES

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA and Section 10 of the Rivers and Harbors Act; the CDFW regulates activities under the FGC Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

There are no potential jurisdictional features within the Project Area. Immediately adjacent (southwest) to the Project Area and within the BSA is the Los Angeles River (Figure 4). The Project Area is located in the upland area adjacent to the concrete-lined banks of the Los Angeles River channel. The Los Angeles River is considered to be WOTUS and under the jurisdiction of the USACE up to the OHWM, and waters of the state under jurisdiction of the RWQCB. The river channel up to the top of the concrete banks and within any adjacent riparian zone vegetation is considered to be under the jurisdiction of the CDFW.

4.5 SOILS

Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service was used to determine potential soil types that may occur with the BSA; this data was used to determine where hydric soils have historically occurred (Appendix A, Figure 5). Table 4 identifies the soils historically known to occur within the BSA and provides a summary of characteristics of these soils.

Table 4: Historic Soil Units Occurring within the Biological Survey Area

Map Unit Symbol	Map Unit Name	Description	Acres within BSA
1002	Urban land-Palmview-Tujunga complex, 0 to 5 percent slopes	A well-drained soil associated with alluvial fans at elevations between 240 to 1,990 feet; fine sandy loam, sandy loam; parent material consists of discontinuous human-transported material over alluvium derived from granite; very high runoff; 0 inches to manufactured layer.	3.38
1200	Urban land, commercial, 0 to 5 percent slopes	Associated with floodplains at 120 to 510 feet in elevation; very high runoff; 0 inches to manufactured layer	56.03
1264	Xeropsamments, frequently flooded, 0 to 2 percent slopes	A somewhat excessively drained soil associated with rivers and channels at elevations between 100 to 460 feet; stratified sand; parent material consists of alluvium derived from granite	20.18

5.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

The background information presented above combined with habitat assessments performed during the surveys was used to evaluate special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and adjacent habitats. For the purposes of this BRTR, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California Endangered Species Act or FESA
- Are candidate species being considered or proposed for listing under these same acts
- Are recognized as SSC by the CDFW
- Are ranked by CNPS as CRPR 1, 2, 3, or 4 plant species
- Are fully protected by the FGC, Sections 3511, 4700, 5050, or 5515
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions

5.1 SPECIAL STATUS NATURAL COMMUNITIES

Special-status natural communities are defined by CDFW (2020) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA.

One vegetation community identified within the BSA is listed as sensitive: Gooding's willow - red willow riparian woodland and forest. This community has a state rank of S3/Vulnerable; vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state. No sensitive communities occur within proposed Project Area.

5.2 DESIGNATED CRITICAL HABITAT

Critical habitat is defined by the USFWS (2020b) as, "…a term defined and used in the Endangered Species Act. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery."

There is no designated critical habitat for any listed plant or wildlife species within the BSA.

5.3 SPECIAL STATUS PLANTS

Table 5 presents a list of special-status plants, including federally and state listed species and CRPR 1-4 species that are known to occur within 10 miles of the BSA (Appendix A, Figures 6 and 6a provide a depiction of known species locations).

Record searches of the CNDDB, the CNPS Online Inventory, and the Consortium of Critical Herbaria was performed for special-status plant taxa. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

Present: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.

High: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.

Moderate: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal or limited within the BSA, or the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.

Low: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles), and the environmental conditions (including soil type) associated with taxa presence are marginal or limited within the BSA.

Not Likely to Occur: The environmental conditions associated with taxa presence do not occur within the BSA.

While many of the species listed below in Table 5 have a low potential to occur within the BSA, they are not expected to occur within the Project Area due to the lack of suitable habitat.

Table 5: Known and Potential Occurrences of Special Status Plant Taxa within the BSA

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Arenaria paludicola marsh sandwort	**FE, SE, 1B.1, S1**	Marshes and swamps (fresh water or brackish); sandy substrates; found in open habitats. Elevation range: 3-170 m.	March-August	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 6.35 miles southwest of the BSA; however, this observation is from 120 years ago in 1900.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Astragalus brauntonii Braunton's milk-vetch	**FE, 1B.1, S2**	Chaparral, valley grasslands, coastal sage scrub, closed-cone pine forest. Occurs in disturbed habitat and requires gravelly clay soils. Elevation range: 4-640 m.	January-August	**Low:** Marginally suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 7 miles west of the BSA; however, this observation is from more than 80 years ago in 1930.
Astragalus tener var. *titi* coastal dunes milk-vetch	**FE, SE 1B.1, S1**	Coastal bluff scrub (sandy), coastal dunes, and coastal prairie (mesic). Often in vernally mesic areas. Elevation range: 1-50 m.	March-May	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles south southwest of the BSA; however, this observation was recorded 90 years ago in 1930.
Atriplex parishii Parish's brittlescale	**1B.1, S1**	Native to Central and Southern California often found in dry lake beds, playas, and ephemeral vernal pools. Saline and alkaline soils. Elevation range: 0-470 m.	June-October	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 4.5 miles northwest of the BSA.
Atriplex serenana var. *davidsonii* Davidson's saltscale	**1B.2, S1**	Coastal scrub, bluffs, Chenopod scrub, playas, and vernal pools from southern California to Baja California. Elevation range: 0-200 m.	April-October	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 2 miles to the south southwest of the BSA; however, this observation is from more than 120 years ago.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Berberis nevinii Nevin's barberry	**FE, SE, S1, 1B.1**	Chaparral of inland canyons and foothills in southern California. Elevation range: It is also widely cultivated in gardens and parks. Elevation range: 40-2280 m.	March-June	**Not Likely to Occur:** Marginally suitable habitat occurs. The nearest and most recently recorded occurrence is a planted population approximately 3 miles west northwest of the BSA located in Griffith Park. It was not observed during the field survey and is not likely to occur.
Calochortus clavatus var. gracilis slender mariposa-lily	**S2S3, 1B.2**	Valley and foothill grassland, coastal scrub, and chaparral. Elevation range: 5-2540 m	May-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrences are from within the past 20 years, presumed extant, and located 4 miles west northwest and 9 miles north northwest.
Calochortus plummerae Plummer's mariposa-lily	**4.2, S4**	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Granite and rocky substrates. Elevation range: 100-1,700 m.	May-July	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 4 and 9 miles north northeast of the BSA from within the past 30 years.
Calystegia felix lucky morning-glory	**1B.1, S1**	Historically associated with wetland and marshy places, but possibly in drier situations as well. Possibly silty loam and alkaline, meadows and seeps (sometimes alkaline), riparian scrub (alluvial). Elevation range: 30-215 m.	March-September	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence are approximately 2 miles west southwest and 7 miles southwest of the BSA from more than 120 years ago in 1899.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Centromadia parryi ssp. *australis* southern tarplant	**1B.1, S2**	Marshes and swamps (margins), valley and foothill grasslands (vernally mesic), and vernal pools; often in disturbed sites near the coast at marsh edges; also, in alkaline soils sometimes with saltgrass. Elevation range: 0-480 m.	May-November	**Low:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence are approximately 2 miles and 8 miles northeast of the BSA from 1930 and 1950.
Centromadia pungens ssp. laevis smooth tarplant	**1B.1, S2**	Chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grasslands. Elevation range: 0-610 m.	April-September	**Not likely to occur:** No suitable habitat occurs within the BSA**.** The nearest recorded occurrence is approximately five miles east northeast of the BSA from 1901.
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	**FC, SE, 1B.1, S1**	Annual; sandy areas in coastal scrub and native grasslands; Los Angeles and Ventura Counties. Elevation range: 150-1220 m.	April-July	**Not likely to occur:** No suitable habitat within the BSA. The nearest and most recently recorded occurrence is five miles northwest of the BSA; however, this observation is from more than 130 years ago in 1890.
Chorizanthe parryi var. parryi Parry's spineflower	**1B.1, S2**	Annual; Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation range: 275-1220 m.	April-June	**Not likely to occur:** No suitable habitat within the BSA. The nearest and most recently recorded occurrences are six and eight miles north northeast of the BSA; however, one observation is from more than 100 years ago in 1919 and the other observation does not have a date associated with it.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Dodechahema leptoceras slender-horned spineflower	**FE, SE, 1B.1, S2**	Annual. Chapparal, cismontane woodland, and coastal scrub. Southern California. Elevation range: 200-760 m.	April-June	**Not likely to occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrences are 6 and 7 miles northeast and north of the BSA from 1920 and 1916.
Dudleya multicaulis many-stemmed dudleya	**1B.2, S2**	Chaparral, coastal scrub, and valley and foothill grassland. Elevation range: 15-790 m.	April-July	**Not likely to occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 3 miles west from 1925.
Helianthus nuttallii ssp*. parishii* Los Angeles sunflower	**1A, SH**	Marshes and swamps (coastal salt and freshwater). Elevation range: 10-1,525 m.	August-October	**Not likely to occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 6 miles east northeast of the BSA from 1901
Horkelia cuneata var*. puberula* mesa horkelia	**1B.1, S1**	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevation range: 15-1,645 m.	February-July (September)	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest and most recent recorded occurrences are approximately 2 miles north northeast and 9 miles northeast of the BSA from 1906 and 1967.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	**1B.1**	Marshes and swamps (coastal salt), playas, and vernal pools; Usually found on alkaline soils in playas, sinks, and grasslands. Elevation range: 1-1,375 m.	February-June	**Not likely to occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 5 miles east northeast and 10 miles southwest of the BSA from 1882 and 1934.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Lepidium virginicum var. robinsonii Robinson's peppergrass	**S3**	Chaparral and coastal scrub. Elevation range: 5-885 m.	Jan-July	**Not Likely to Occur:** Suitable habitat does not occur with the BSA. The nearest and most recently recorded occurrences are approximately 4 miles south southeast and 9 miles east northeast of the BSA from 1950 and 1994.
Malacothamnus davidsonii Davidson's bush-mallow	**1B.2, S2**	Chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevation range: 185-1140 m.	June-January	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrences are approximately 8 miles north northwest and 9 miles northwest of the BSA from 2003 and 2015.
Nasturtium gambelii Gambel's water cress	**FE, ST, 1B.1, S1**	Marshes and swamps (freshwater or brackish). Elevation range:5-330 m.	April-October	**Not likely to occur:** No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles southwest of the BSA from 1904.
Navarretia prostrata prostrate vernal pool navarretia	**1B.2, S2**	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevation range: 3-1,235 m.	April-June	**Not Likely to Occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrence is 3 miles southwest of the BSA from 1907.
Pseudognaphalium leucocephalum white rabbit-tobacco	**2B.2, S2**	Chaparral, cismontane woodland, coastal scrub, and riparian woodland. 0-2100 m.	(July) August-November (December)	**Low:** Marginally suitable habitat occurs with the BSA. The nearest and most recently recorded occurrences are approximately 4 miles west southwest and 8 miles north of the BSA from 1907 and 1932.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Quercus dumosa Nuttall's scrub oak	**1B.1, S3**	Closed-cone coniferous forest, chaparral, coastal scrub. Generally, on sandy soils near the coast; sometimes on clay loam. Elevation range: 15-640 m.	February-May (May-August)	**Not Likely to Occur:** Suitable habitat does not occur with the BSA. The nearest and most recently recorded occurrences are approximately 2 miles west from 1924 and 10 miles southwest from 2009.
Ribes divaricatum va. Parishii Parish’s gooseberry	**1A, SX**	Riparian woodland. Elevation range: 65-300 m.	February-April	**Low:** Marginally suitable habitat occurs within the Los Angeles River in the BSA. No suitable habitat occurs within the BSA. The nearest recorded occurrence is 1 mile east northeast from the BSA from 1893.
Sidalcea neomexicana salt spring checkerbloom	**2B.2, S2**	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub; alkali springs and marshes. Elevation range: 3-2,380 m.	March-June	**Not likely to occur:** No suitable habitat occurs within the BSA. The nearest recorded occurrences are approximately 3 miles south and 9 miles southwest of the BSA from 1902 and 1922.
Spermolepis lateriflora western bristly scaleseed	**2A, SH**	Sonoran Desert scrub	March-April	**Not likely to occur:** Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 8 miles north of the BSA from 1930.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Symphyotrichum defoliatum San Bernardino aster	**1B.2, S2**	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. Elevation range: 3-2,045 m.	July-November	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrences are approximately 4 miles west and 6 miles southwest of the BSA; however, these observations are from more than 110 years ago in 1893 and 1904.
Symphyotrichum greatae Greata's aster	**1B.3, S2**	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland. 300-2010 m.	Jun-Oct	**Low:** Marginally suitable habitat occurs in the BSA in the L.A. river corridor. The nearest recorded occurrences are approximately 1 mile south and 9 miles north northeast of the BSA from 1932 and 1991.
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	**2B.2, S2**	Meadows and seeps (seeps and streams) and riparian habitats. 50-610 m.	Jan-Sept	**Low:** Marginally suitable habitat occurs within the BSA in the L.A. River corridor. The nearest and most recently recorded occurrence is approximately 8 miles north northeast from the BSA from 1967.

Status Codes
Federal Designation
FE = Federally Endangered
FC = Federal Candidate Species for Listing
CDFW State Designation
SE = State Endangered
ST = State Threatened
State Ranking
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S5 = Secure
SH = Possibly Extirpated
SX = Presumed Extirpated

CNPS CRPR Designation
1A = Plants considered by the CNPS to be extinct in California
1B = Plants rare, threatened, or endangered in California and elsewhere.
2A. Presumed extinct in California, extant and more common elsewhere
2B. Rare or Endangered in California, more common elsewhere
3. Plants for which we need more information - Review list
4. Plants of limited distribution - Watch list
.1 = Seriously threatened in California (high degree/immediacy of threat).
.2 = Fairly threatened in California (moderate degree/immediacy of threat).
BSA = Biological Study Area
m = meter

5.4 SPECIAL STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the FESA or California Endangered Species Act, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the BSA.

The CNDDB was queried for occurrences of special-status wildlife taxa within a 10-mile radius of the BSA discussed in Section 2.0. Table 6 summarizes the special-status wildlife taxa known to occur regionally and their potential for occurrence in the BSA (Appendix A, Figures 6, 6b and 6c provide a depiction of previously reported species locations). Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

Present: Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.

High: Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.

Moderate: Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.

Low: Limited habitat for the taxa occurs within the BSA and no known occurrences were found within the database search and the taxa's range includes the geographic area.

Not Likely to Occur: The environmental conditions associated with taxa presence do not occur within the BSA.

While many of the species listed in Table 6 have some potential to occur within the BSA, they are generally not expected to occur within the Project Area due to the lack of suitable habitat.

Table 6: Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
INVERTEBRATES					
Bombus crotchii	Crotch bumble bee	**SC, S1S2**	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	The nearest recorded occurrence of this species is within the BSA in 2020, and there are multiple occurrences within 5 miles within the past 20 years. California buckwheat (*Eriogonum fasciculatum*), a food plant for the species occurs within the BSA, but there is none within the Project Area.	**High**
Danaus plexippus	Monarch butterfly	**CAN**	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Food plant genus *Asclepias*.	No suitable habitat for food or roosting occurs within the BSA.	**Not Likely to Occur**
Eugnosta busckana	Busck's gallmoth	**SH**	Coastal scrub dune habitat.	Suitable habitat does not occur with the BSA. The nearest recorded occurrence of this species is 7.4 miles west southwest from the BSA in 1929.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Glyptostoma gabrielense	San Gabriel chestnut snail	**S2**	Microhabitats with sufficient moisture in rocky hills and mountains at relatively low elevations. Historic range includes the San Gabriel Mountain Range within the city of Pasadena, Millard Canyon, Mt. Lowe and the Dominguez Hills.	Suitable habitat does not occur with the BSA. The nearest recorded occurrence of this species is approximately ½ mile south of the BSA in 1944. There are three occurrences from 2020 between 9 and 10 miles from the BSA, all to the east or northeast.	**Not Likely to Occur**
Gonidea angulata	western ridged mussel	**S1S2**	Prefers constant water flow and stable stream bottoms such as sand and gravel bars in areas of slow-moving water. Streams with wide floodplains and ample sand and gravel.	The portion of the BSA that contains the Los Angeles River has suitable habitat for this species, and the nearest recorded occurrence was within the BSA in 1993. However, the species was not observed on site during the field survey. It is not expected to occur within the Project Area due to lack of suitable habitat.	**Moderate**
AMPHIBIANS					
Rana muscosa	southern mountain yellow-legged frog	**FE, SE, WL, S1**	Occur in the Sierra Nevada range of California. Inhabit lakes, ponds, marshes, meadows, and streams at elevations typically ranging from 1,370 to 3,660 meters.	The elevation of the BSA is lower than the elevation where this species typically occurs. The nearest occurrence is 8 miles north northeast from the BSA in 1936.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Spea hammondii	western spadefoot	**SSC, S3**	Occurs in the Central Valley and adjacent foothills and the non-desert areas of Southern California and Baja California. Grassland habitats and valley-foothill hardwood woodlands. Vernal pools and other temporary rain pools, cattle tanks, and occasionally pools of intermittent streams are essential for breeding and egg-laying. Burrows in loose soils during dry season.	Marginally suitable habitat occurs within the Los Angeles River portion of the BSA. Two occurrences have been recorded within three miles, but both are from 1921, over 100 years ago.	**Low**
Taricha torosa	Coast Range newt	**SSC, S4**	Species of Special Concern status extends only to populations found from Monterey County to San Diego, excluding a population in the southern Sierra Nevada mountains. Southern populations tend to use permanent streams for breeding, and in southern California are also limited by the availability of rocky canyons with clear, cold water (Thomson, 2016)	Although a portion of the Los Angeles River is included in the BSA, the type of river and water quality is not suitable for this species. So, no suitable habitat occurs within the BSA. The closest occurrence is 8 miles north northeast of the BSA from 2003.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
REPTILES					
Anniella stebbinsi	Southern California legless lizard	**SSC, S3**	Generally, south of the transverse range, extending to northwestern Baja California; occurs in sandy or loose loamy soils under sparse vegetation; disjunct populations in the Tehachapi and Piute mountains in Kern County; variety of habitats; generally in moist, loose soil; they prefer soils with a high moisture content.	Marginally suitable habitat occurs within the Los Angeles River within the BSA. Five species occurrences occur within five miles within the past ten years. The closest of these was approximately ½ mile to the east of the BSA in 2013. This species was not observed during the field survey.	**Moderate**
Arizona elegans occidentalis	California glossy snake	**SSC, S2**	Occurs in grasslands, fields, coastal sage scrub, and chaparral from the central San Joaquin Valley south to the Tehachapi Mountains and along the base of the Coast Range mountains farther south to San Quintin, Baja California. It prefers loose soil that allows for burrowing.	Suitable habitat doesn’t occur within the BSA. No occurrences within a 5-mile radius of the BSA. The closest occurrence was in 1889 and 5 ½ miles to the east.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Emys marmorata	western pond turtle	**SSC, S3**	Ranges widely along the west coast of the U.S. down into the Baja California peninsula. Variety of aquatic water bodies; Needs upland area for nesting habitat; Soils need to be loose enough to allow for nest excavation	Marginally suitable habitat occurs within the BSA. The nearest CNDDB records were 6 miles west northwest of the BSA in 1917. Species was observed in the Los Angeles River approximately 5 miles upstream of Bowtie Parcel in 2017 by Stantec biologists.	**Moderate**
Phrynosoma blainvillii	coast horned lizard	**SSC, S3S4**	Primarily in sandy soil in open areas, especially sandy washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	Suitable habitat does not occur within the BSA. The most recent occurrence was 5 miles east southeast of the BSA in 1974. In 1931 the species was recorded 3.5 miles north northeast of the BSA.	**Not Likely to Occur**
BIRDS					
Accipiter cooperii	Cooper’s hawk	**WL**	Uses a variety of habitats, including mixed and deciduous forests, open woodlands, riparian woodlands, open pinyon woodlands, and forests. Can be found in city habitats and suburban areas.	Suitable foraging habitat occurs in the Los Angeles River corridor, but habitat is disturbed. This species was observed in the BSA eating a prey item in the river corridor in November 2022.	**Moderate for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Accipiter striatus	sharp-shinned hawk	**WL, S4**	Forages in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines, especially where migrating birds are found. Typically nests in dense, small-tree stands of conifers, which are cool, moist, well shaded, with little ground-cover, near water.	Marginally suitable foraging habitat occurs within the Los Angeles River corridor. There is one occurrence recorded on eBird approximately in Lewis McAdams Riverfront Park, approximately 0.6 miles southwest of the BSA from 2022 and one occurrence at the Frogtown area approximately 1 mile downstream of the BSA from 2022.	**Not Likely to Occur for Nesting/Moderate for Foraging**
Agelaius phoeniceus	Red-winged blackbird	**SSC**	Breeds in marshes, brushy swamps, hayfields; forages also in cultivated land and along edges of water. Breeds most commonly in freshwater marsh, but also in wooded or brushy swamps, rank weedy fields, hayfields, upper edges of salt marsh.	Suitable habitat occurs in river corridor, but habitat is disturbed within the Los Angeles River corridor. There are numerous occurrences near the BSA on eBird, including at the Lewis MacAdams Riverfront Park across the Los Angeles River from the BSA in 2022, and the Frogtown area approximately 1 mile downstream of the BSA in January 2023.	**Moderate for Nesting/Moderate for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	**WL, S3**	Breeding habitat includes vegetated scrubland on hillsides and canyons, coastal sage scrub, coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats.	Marginally suitable breeding and foraging habitat occurs within the BSA. There is one occurrence 5 miles west of the BSA in 2014.	**Moderate for Nesting/Moderate for Foraging**
Athene cunicularia	burrowing owl	**SSC, BCC, S3**	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Owls are found in microhabitats highly altered by humans, including flood risk management and irrigation basins, dikes, banks, abandoned fields surrounded by agriculture, and road cuts and margins. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Marginally suitable breeding and foraging habitat occurs within the BSA. The nearest and most recent occurrence was recorded on site in 1921.	**Low for Nesting/Low for Foraging**
Ardea alba	great egret	**SA, S4**	Fresh and saline emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures. Nests in large trees and roosts in trees.	Suitable habitat occurs within the LA River corridor. There are no CNDDB occurrences recorded from within 10 miles of the BSA. This species was observed in the Los Angeles River corridor during the survey.	**Moderate for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Ardea herodias	great blue heron	**SA, S4**	Shallow estuaries and fresh and saline emergent wetlands, riverine and rocky marine shores, croplands, pastures and in mountains above foothills. Usually nests in colonies.	Suitable habitat occurs within the Los Angeles River corridor. There are no CNDDB occurrences recorded from within 10 miles of the BSA. This species was observed in the Los Angeles River during the survey.	**Moderate for Nesting/High for Foraging**
Buteo swainsoni	Swainson's hawk	**ST, BCC, S3**	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No suitable habitat for nesting or foraging occurs within the BSA. The nearest occurrence was recorded in 1880 almost seven miles east of the BSA.	**Not Likely to Occur for Nesting /Not Likely to Occur for Foraging**
Calypte costae	Costa's hummingbird	**SA, S4**	Primary habitats are desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis.	Marginally suitable habitat occurs within the BSA. There are occurrences recorded on eBird at Lewis MacAdams Riverfront Park approximately 0.6 miles west of the BSA in 2022 and in the Frogtown area approximately 1 mile south of the BSA in 2016.	**Low for Nesting/Moderate for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Chaetura vauxi	Vaux's swift	**SSC, BCC, S2S3**	Open sky over forest, lakes, and rivers. Often feeds low over water, especially in morning and evening or during unsettled weather. Nests in coniferous and mixed forest,	Marginally suitable nesting habitat foraging habitat occurs within the BSA. There are occurrences recorded on eBird at the Taylor Yard area and Rio do Los Angeles State Park approximately 0.25 mile east of the BSA in 2013 and 2022 respectively.	**Low for Nesting/Low for Foraging**
Coturnicops noveboracensis	yellow rail	**SSC, BCC, S1S2**	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	No suitable habitat occurs within the BSA for nesting or foraging. The species was recorded 3 miles west southwest of the BSA in 1952.	**Not Likely to Occur for Nesting/Not Likely to Occur for Foraging**
Elanus leucurus	White-tailed kite	**FP, S3S4**	Open groves, river valleys, marshes, grasslands. Occurs in lowlands of California west of the Sierra Nevada range and the southeast deserts. It is found in the Central Valley and along the entire California coast.	Marginally suitable nesting habitat foraging habitat occurs within the BSA. There is one occurrence recorded on eBird at the Frogtown area approximately 1 mile downstream of the BSA in 1999.	**Low for Nesting/Low for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Empidonax traillii extimus	southwestern willow flycatcher	**FE, SE, S1**	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S.	Marginally suitable nesting habitat occurs andsuitable foraging habitat occurs within the BSA. There are two occurrences from within the site and within five miles of the site, but they are from over 90 years ago. There is an eBird occurrence of willow flycatcher from Rio De Los Angeles State Park approximately 0.6 miles south of the BSA from 2022 and from the Frogtown area approximately 1 mile south of the BSA in 2018. These occurrences were not confirmed at the subspecies level.	**Low for Nesting/Moderate for Foraging**
Egretta thula	snowy egret	**SA, S4**	Coastal estuaries, fresh and saline emergent wetlands, ponds, slow-moving rivers, irrigation ditches, and wet fields. Dense marshes are required for nesting. Also nests in low trees.	Suitable habitat occurs within the LA River corridor. There are no CNDDB occurrences recorded from within 10 miles of the BSA. This species was observed in the LA River corridor during the survey.	**Low for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Falco peregrinus anatum	American peregrine falcon	**FP, S3S4**	Coastal sage scrub communities that are associated with coastal dunes, perennial grasslands, annual grasslands, croplands, pastures, coast Douglas-fir-hardwood forests, coastal oak woodlands, montane hardwood woodlands, closed-cone pine-cypress woodlands, chamise-red shank chaparral, and mixed-chaparral communities.	Marginally suitable nesting and foraging habitat occurs within the BSA. There is one recorded occurrence within 1 mile north of the BSA in 2005, and an occurrence recorded on eBird across the Los Angeles River from the BSA at Lewis MacAdams Riverfront Park in 2022	**Moderate for Nesting/High for Foraging**
Larus californicus	California gull	**WL, S4**	A fairly common nester at alkali and freshwater lacustrine habitats east of the Sierra Nevada and Cascades, and an abundant visitor to coastal and interior lowlands in nonbreeding season. Preferred habitats are sandy beaches, mudflats, rocky intertidal, and pelagic areas of marine and estuarine habitats, as well as fresh and saline emergent wetlands, lacustrine, riverine, and cropland habitats, landfill dumps, and open lawns in cities.	Suitable foraging habitat occurs within the LA river corridor. An occurrence was recorded in eBird from 2022 from the Bowtie Parcel and in the Rio de Los Angeles State Park, approximately 0.6 miles from the BSA from 2022.	**Not Likely to Occur for Nesting/Moderate for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Nannopterum auritum	double-crested cormorant	**WL, S4**	Inland lakes, in fresh, salt and estuarine waters. Feeds mainly on fish also on crustaceans and amphibians.	Suitable foraging habitat occurs within the LA river corridor. There are no CNDDB occurrences within 10 miles of the BSA. An occurrence was recorded in eBird from 2022, from the Bowtie Parcel hotspot (specific location not available).	**Not Likely to Occur for Nesting/Moderate for Foraging**
Nycticorax nycticorax	black-crowned night heron	**SA, S4**	Lowlands and foothills throughout most of California, including the Salton Sea and Colorado River areas. Nests in large colonies. Feeds along the margins of lacustrine, large riverine, and fresh and saline emergent habitats. Nests in dense-foliaged trees, dense, fresh or brackish emergent wetlands, or dense shrubbery or vine tangles, usually near aquatic or emergent feeding areas.	Suitable habitat occurs within the LA River corridor. This species was observed within the river corridor adjacent to the Bowtie Parcel during surveys.	**Not Likely to Occur for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Pandion haliaetus	osprey	**WL, S4**	Forages in shallow inland waters along rivers, streams, marshes, and reservoirs. Wintering and nonbreeding birds also feed in shallow coastal marine habitats Suitable nesting habitat includes power poles and towers, large living and dead trees.	Suitable foraging habitat occurs within the Los Angeles River corridor. This species was observed within the river corridor adjacent to the Bowtie Parcel during surveys.	**Moderate for Nesting/High for Foraging**
Pelecanus erythrorhynchos	American white pelican	**SSC, S1S2**	Forage in shallow inland waters, such as open areas in marshes and along lake or river edges; wintering and nonbreeding birds also feed in shallow coastal marine habitats	Suitable foraging habitat occurs within the LA River corridor. There are occurrences recorded on eBird in Lewis McAdams Riverfront Park, approximately .6 miles southwest of the BSA from 2022, in the Frogtown area approximately 1 mile south of the BSA from 2021, and in the Rio de Los Angeles State Park, approximately .6 miles from the BSA from 2022.	**Not Likely to Occur for Nesting/High for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Plegadis chihi	white-faced ibis	**WL, S3S4**	Feeds in fresh emergent wetland, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense, fresh emergent wetland.	Marginally suitable foraging habitat occurs within the LA River corridor. There is one occurrence recorded on eBird approximately in Lewis McAdams Riverfront Park, approximately 0.6 miles southwest of the BSA from 2022 and one occurrence recorded in Frogtown approximately 1 mile downstream from the BSA from 2023.	**Not Likely to Occur for Nesting/Low for Foraging**
Polioptila californica californica	coastal California gnatcatcher	**FT, SSC, S2**	Obligate, permanent resident of coastal sage scrub below 2500 feet in Southern California. Low, coastal sage scrub in arid washes and on mesas and slopes with California sagebrush (*Artemisia californica*) as a dominant or co-dominant species. Not all areas classified as coastal sage scrub are occupied.	Marginally suitable nesting and foraging habitat occurs within the BSA. However, the only occurrences within 20 years are all at least 9 miles away.	**Low for Nesting/Low for Foraging**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Riparia riparia	bank swallow	**ST, S2**	Low areas along rivers, streams, ocean coasts, and reservoirs. Nesting habitat is vertical banks of fine textured soils, most commonly along streams and rivers. Forage in open areas and avoid places with tree cover.	Marginally suitable nesting and foraging habitat occurs within the BSA along the Los Angeles River. However, the BSA is outside of the breeding range of this species. The only recorded occurrence was recorded within site in 1894.	**Not Likely to Occur for Nesting/Low for Foraging**
Setophaga petechia	yellow warbler		Yellow warblers generally occupy riparian vegetation in close proximity to water along streams and in wet meadows. They can be found roosting and nesting in willows and cottonwoods in river corridors.	Suitable nesting habitat and foraging habitat occurs in vegetated sections of the Los Angeles River corridor. This species was observed in May 2022 by Stantec biologists within the Los Angeles River corridor adjacent to the Bowtie Parcel.	**Moderate for Nesting/Moderate for Foraging**
Vireo bellii pusillus	least Bell's vireo	**FE, SE, S2**	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Often inhabits structurally diverse woodlands along watercourses including cottonwood-willow and oak woodlands and mulefat scrub. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, mesquite.	Marginally suitable nesting habitat and suitable foraging habitat occurs within the BSA along the Los Angeles River. All the occurrences within 5 miles of the BSA are from over 100 years ago. More recent occurrences, from 2013 and 2015, are 7 and 10 miles to the east and northeast of the BSA.	**Low for Nesting/Moderate for Foraging**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
MAMMALS					
Antrozous pallidus	pallid bat	**SSC, S3**	Desert, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats form high temperatures. Very sensitive to disturbance of roosting sites.	No suitable habitat occurs within the site. All occurrences are more than 50 years old and are recorded more than 5 miles from the BSA.	**Not Likely to Occur**
Eumops perotis californicus	western mastiff bat	**SSC, S3S4**	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, bridges, trees, and tunnels. In California, most records are from rocky areas at low elevations.	No suitable habitat occurs within the BSA. All occurrences within 5 miles are from over 30 years ago.	**Not Likely to Occur**
Lasionycteris noctivagans	silver-haired bat	**S3S4**	Coastal and montane forest. Forages over streams, ponds, and brushy areas, and requires follows of trees for roost habitat. Conifer and mixed conifer/hardwood forests. Roosts mainly in hollows or crevices of trees, but may also roost in rock crevices, mines, or caves. Forages over streams, ponds, and brushy areas.	No suitable habitat occurs within the BSA. The nearest record of this species in over 6 miles to the north northeast of the BSA and was recorded almost 45 years ago.	**Not Likely to Occur**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Lasiurus cinereus	hoary bat	**S4**	Forages over a wide range of habitats but prefers open habitats with access to water and trees for roosting. Typically solitary, roosting in the foliage of shrubs or coniferous and deciduous trees. Roosts are usually near the edge of a clearing.	Marginally suitable habitat. The nearest occurrence was recorded ¾ of a mile west southwest of the BSA in 1977. The most recent record was 1.5 miles to the west in 1992.	**Low**
Lasiurus xanthinus	western yellow bat	**SSC, S3**	Occurs in Los Angeles and San Bernardino Counties south to the Mexican border. Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats below 600 m.	Untrimmed palm trees are present in the BSA. There is an occurrence 1 mile north northwest of the BSA from 1984.	**Low**
Microtus californicus stephensi	south coast marsh vole	**SSC, S1S2**	Occurs in the area of tidal marshes in Los Angeles, Orange, and southern Ventura Counties.	No suitable habitat is present within the BSA. The nearest occurrence was recorded 10 miles to the southwest 45 years ago.	**Not Likely to Occur**
Neotoma lepida intermedia	San Diego desert woodrat	**SSC, S3S4**	Inhabits most of southern California, with range extending northward along the coast to Monterey Co., and along the Coast Range to San Francisco Bay. Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Also found in other habitats.	Marginally suitable habitat occurs within the BSA within the low-quality coastal scrub. Two occurrences from 2006 were documented approximately 5 miles west northwest of the site.	**Moderate**

Taxa					
Scientific Name	**Common Name**	**Status**	**Habitat Type**	**Comments**	**Occurrence Potential**
Nyctinomops macrotis	big free-tailed bat	**SSC, S3**	Limited distribution in California. Prefers rugged, rocky canyons, but will also roost in buildings, caves, and occasionally in holes in trees.	No suitable habitat occurs within the BSA. Two occurrences 3 miles south and 5 miles northwest of the BSA were recorded in 1987 and 1985, respectively.	**Not Likely to Occur**
Onychomys torridus ramona	southern grasshopper mouse	**SSC, S3**	Low, semi-open, and open scrub habitats, including chaparral, coastal sage scrub, and low sagebrush.	Marginally suitable habitat occurs within the BSA in the low-quality coastal scrub. The only recorded occurrence is within 1 mile south of the BSA but over 100 years ago.	**Low**
Perognathus longimembris brevinasus	Los Angeles pocket mouse	**SSC, S3**	The habitat of Los Angeles pocket mice includes lower elevation grassland, alluvial sage scrub, and coastal sage scrub.	Marginally suitable habitat occurs within the BSA in the disturbed coastal scrub. The only recorded occurrence is from 9 miles west northwest of the BSA in 1903.	**Low**
Taxidea taxus	American badger	**SSC, S3**	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open and uncultivated ground. Preys on burrowing rodents. Digs burrows.	No suitable habitat occurs within the BSA. There is one occurrence within the site, but the observation date is unknown.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				

State Rankings:
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S5 = Secure
SH = Possibly Extirpated
SX = Presumed Extirpated
SC = State Candidate for Listing
SD = State Delisted
SA = CDFW Special Animal
SE = State Endangered
ST = State Threatened
FP= CDFW Fully Protected
SSC = CDFW Species of Special Concern
WL = CDFW Watch List

Federal Rankings:
FE = Federally Endangered
FD = Federally Delisted
BCC = USFWS Bird of Conservation Concern

Bird Species Occurrence Potential:
The first Occurrence Potential determination is based on nesting habitat and the second determination is based on foraging habitat.

BSA=Biological Study Area
CNDDB =California Natural Diversity Database

5.5 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts, California red-legged frogs, southwestern pond turtles, and two-striped garter snakes found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian “movement corridor” (Bulger et al. 2002; Hunt 1993; Ramirez 2002, 2003a, 2003b; Rathbun et al. 1992; Trenham 2002). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Beier 1993, 1995; Newmark 1995; Noss et al. 1996, n.d.). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.

Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors, within larger natural habitat areas that are frequently used by animals to facilitate movement and provide access to water, food, cover, den sites, and other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll 1997).

Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are human-made and include culverts, underpasses, drainage pipes, bridges, tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll 1997).

5.5.1 Wildlife Movement in the BSA

The BSA is located in a heavily developed area but contains localized portions of open space and riparian habitat along the Los Angeles River. The Los Angeles River was identified as a potential riparian habitat connection by the California Essential Habitat Connectivity Project (Spencer et al. 2010). Although, degraded and disturbed in many parts, the Los Angeles River is still an important wildlife corridor for many riparian and wildlife species (USACE 2015). Numerous species of fish, amphibians, mammals, waterfowl, songbirds, raptors, and invertebrates use the Los Angeles River corridor for foraging and movement.

Within the BSA, the level of surrounding urban development, presence of physical barriers, and lack of native habitat outside of the Los Angeles River, would significantly constrain the passage of most large terrestrial wildlife known to occur in the region. Terrestrial wildlife corridors between the BSA and other areas of open space are extremely constrained by roadways, and commercial and residential development. However, wildlife movement between the river corridor and the BSA would be relatively unconstrained if existing fencing near the upper riverbank is removed or modified to allow for wildlife passage.

6.0 REFERENCES

Aubry, K. B., L. L. C. Jones, and P. A. Hall. 1988. Use of woody debris by plethodontid salamanders in Douglas-fir in Washington. Pages 32-37 in R. C. Szabo, K. E. Severson, and D. R. Patton, technical coordinators. Management of amphibians, reptiles and small mammals in North America. General technical report RM-166. U.S. Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (eds.) 2012. *The Jepson Manual: Vascular Plants of California*, 2nd ed. University Press, Berkeley, California.

Beier, P. 1993. Determining minimum habitat areas and habitat corridors for cougars. *Conservation Biology*, 7: 94-108.

_____. 1995. Dispersal of juvenile cougars in fragmented habitat. *Journal of Wildlife Management* 59:228–237.

Beier, P. and S. Loe. 1992. A checklist for evaluating impacts to wildlife movement corridors. *Wildlife Society Bulletin* 20: 434-440.

Bulger, J., N. Scott, and R. Seymour. 2002. Terrestrial activity and conservation of adult California red-legged frogs (*Rana aurora draytonii*) in coastal forests and grasslands. *Biol. Conservation* 15: 234-245.

CCH (Consortium of California Herbaria). 2022. California Vascular Plant Online Database. Available online at: http://ucjeps.berkeley.edu/consortium/. Accessed June 2022.

CDFW (California Department of Fish and Wildlife). 2022a. RAREFIND database ed.3.1.1. Electronic database managed by the California Natural Diversity Data Base, Wildlife Data and Habitat Analysis Branch, California Department of Fish and Wildlife. Sacramento, CA.

_____. 2022b. State and Federally Listed Endangered and Threatened Animals of California. April.

_____. 2022c. Special Animals List. April.

_____. 2022d. State and Federally Listed Endangered and Threatened Plants of California. April.

_____. 2021. California Sensitive Natural Communities. August.

_____. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Sacramento, California. March.

_____. 2000. “Spotted Bat.” California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

_____. 1994. A Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607, California Department of Fish and Game Code. Environmental Services Division. Sacramento, California. January.

CNPS (California Native Plant Society), Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org. Accessed 21 June 2022.

Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

ECORP consulting INC. 2020. Biological Technical Report Bowtie Parcel Project (Draft). 53 pp.

Friends of the Los Angeles River (FOLAR). 2008. State of the River 2 The Fish Study. Website https://ucanr.edu/blogs/Green/blogfiles/5222.pdf. Accessed 26 June 2022.

Hunt, L.E. 1993. Relocation and movements of southwestern pond turtles (*Clemmys marmorata pallida*), upper Santa Ynez River, Santa Barbara County, California. Prep. for the City of Santa Barbara and U.S. Forest Service. 135 pp.

Los Angeles County. 2019. Significant Ecological Areas Program. Available online at: http://planning.lacounty.gov/site/sea/. Accessed March 2020.

Meffe, G.K. and C.R. Carroll. 1997. Principles of conservation biology. Sinauer Associates, New York, NY.

Newmark, W. 1995. Extinction of mammal populations in western North American national parks. *Conservation Biology*, 9: 512-526.

Noss, R., P. Beier, and W. Shaw. n.d. Evaluation of the Coal Canyon biological corridor, Los Angeles, Orange, Riverside, and San Bernardino counties, California. Unpub. ms. 19 pp

Noss, R., H. Quigley, M. Hornocker, T. Merrill, and P. Paquet. 1996. Conservation biology and carnivore conservation in the Rocky Mountains. *Conservation Biology* 10:949-963.

Remington, S. and D. S. Cooper. 2014. Bat survey of Griffith Park, Los Angeles, California. The *Southwestern Naturalist* 59(4): 473–479.

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

Simberloff, D., J.A. Farr, J. Cox and D.W. Mehlman. 1992. Movement corridors: Conservation bargains or poor investments? *Conservation Biology* 6(4): 493-504.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

The Nature Conservancy (TNC). 2016. Water Supply and Habitat Resiliency for a Future Los Angeles River: Site-Specific Natural Enhancement Opportunities Informed by Rive Flow and Watershed-Wide Action; Los Feliz to Taylor Yard. Report by The Nature Conservancy's Urban Conservation Program to the Santa Monica Mountains Conservancy and the City of Los Angeles. 234pp.

Thomson, R.C., 2016. *California amphibian and reptile species of special concern*. Univ of California Press.

Trenham, P. 2002. Herpetologist, USGS. Conversation regarding dispersal movements of radio-tagged California newts (*Taricha torosa*) in Monterey County, California. June.

USACE (U.S. Army Corps of Engineers). 1999. Los Angeles District, Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual for the Los Angeles County Drainage Area. December 1999.

USACE and CDFG (United States Army Corps of Engineers and California Department of Fish and Game). 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. SCH No. 2000011025.

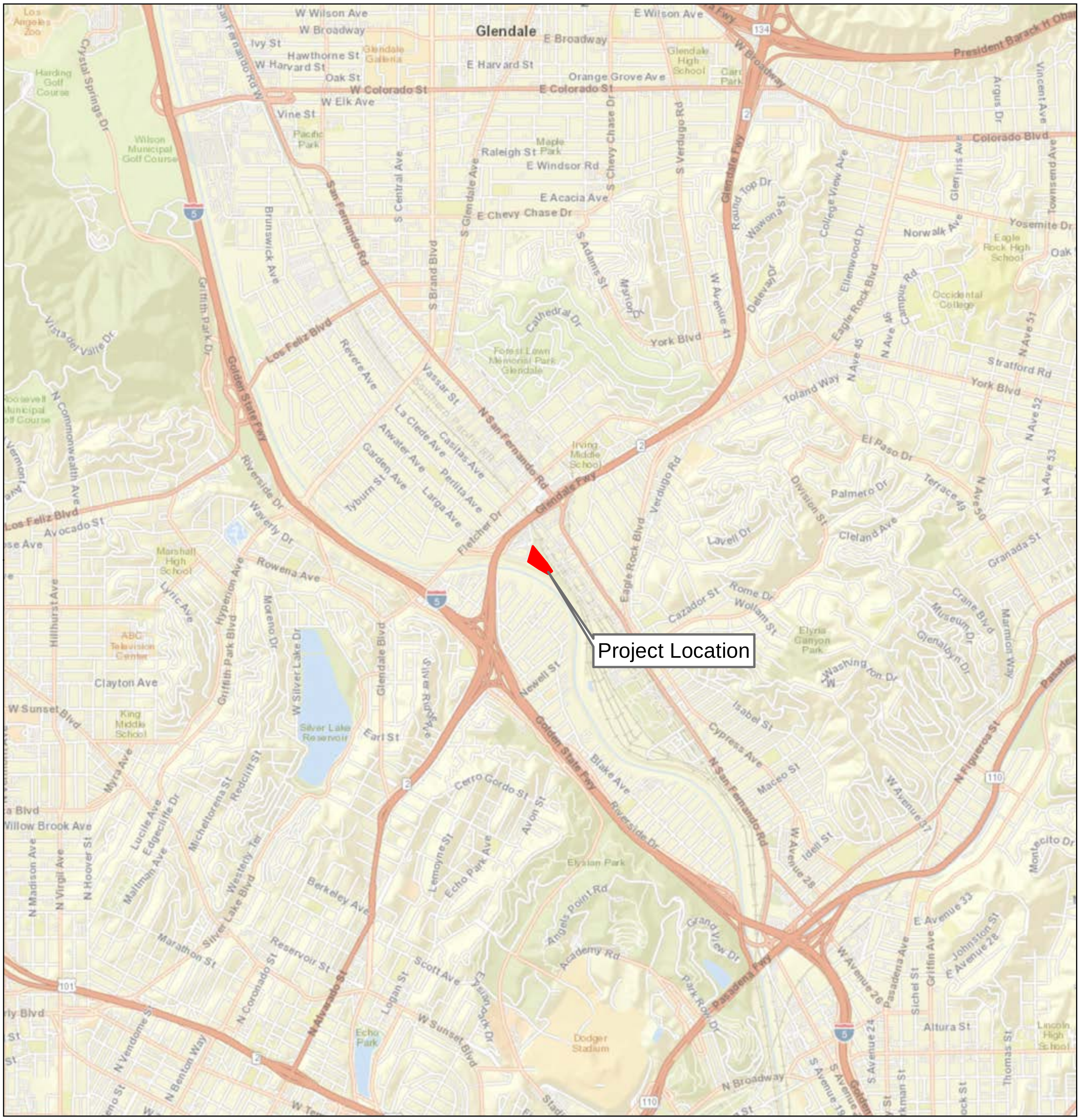
USACE (U.S. Army Corps of Engineers). 2015. Los Angeles River Ecosystem Restoration Study: CHAP Habitat Evaluation Report Appendix G. U.S. Army Corps of Engineers Los Angeles District and Northwest Habitat Institute.

USDA. 2020. Natural Resources Conservation Service Custom Soil Resource Report.

USFWS (United States Fish and Wildlife Service). 2020a. Available online at: https://www.fws.gov/wetlands/data/mapper.html. Accessed March 2020.

______. 2020b. Critical Habitat – Frequently Asked Questions. Available online at https://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html. Accessed March 2020.

APPENDIX A FIGURES



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Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
1

Title
Regional Location Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDDB data from CDFW 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

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Biological Survey Area Project
Site
Proposed Location for Spoil Piles

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1:2,400

N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
2

Title
Project Area

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Biological Survey Area
Project Site
Proposed Location for Spoil Piles

Vegetation Communities and Land Cover Types

Disturbed/Developed
Fountain grass swards
Goodding's willow - red willow riparian woodland and forest
Open Water
Ornamental Non-Native
California buckwheat scrub (Planted)

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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(At original document size of 8.5x11)
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N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
3

Title
Vegetation Communities and Land Cover Types

V:\1858\Active\184031605_Bowtie\gis\BRTR_Figure3_Vegetation_20220622.mxd Revised: 2022-06-22 By: Dalaw

Biological Survey Area
Project Site
Proposed Location for Spoil Piles
Aquatic Feature

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(At original document size of 8.5x11)
1:2,400

N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
4

Title
Aquatic Resources

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. Soils data from NCRS 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

V:\1858\Active\184031605_Bowtie\gis\BRTR_Figure4_AquaticResources_20220622.mxd Revised: 2022-06-29 By: Dalaw

Biological Survey Area

Project Site

Proposed Location for Spoil Piles

Soils Map Unit Symbol

1002: Urban land-Palmview-Tujunga complex, 0 to 5 percent slopes

1200: Urban land, commercial, 0 to 5 percent slopes

1264: Xeropsamments, frequently flooded, 0 to 2 percent slopes

0 100 200 Feet

(At original document size of 8.5x11)
1:2,400

N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
5

Title
Historic Soils

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. Soils data from NCRS 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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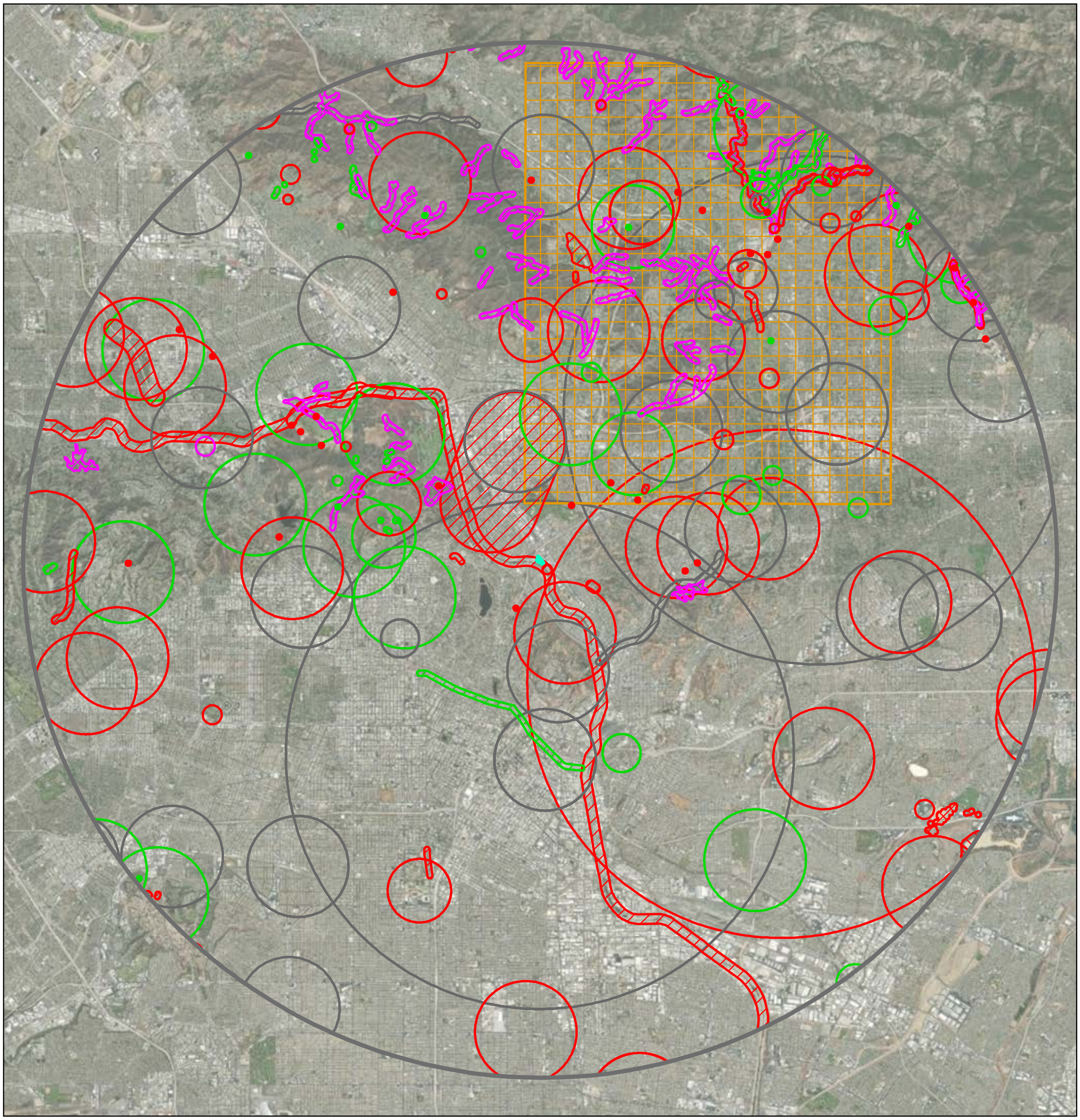

Project Location
10 Mile Search Radius
CNDDB
Plant (80m)
Plant (specific)
Plant (non-specific)
Plant (circular)
Animal (80m)
Animal (specific)
Animal (non-specific)
Animal (circular)
Terrestrial Comm. (specific)
Terrestrial Comm. (circular)
Multiple (non-specific)
Multiple (circular)
Sensitive EO's (Commercial only)

0 1.5 3 Miles
(At original document size of 8.5x11)
1:190,080

N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
6

Title
10 Mile CNDDB Results

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDDB data from CDFW 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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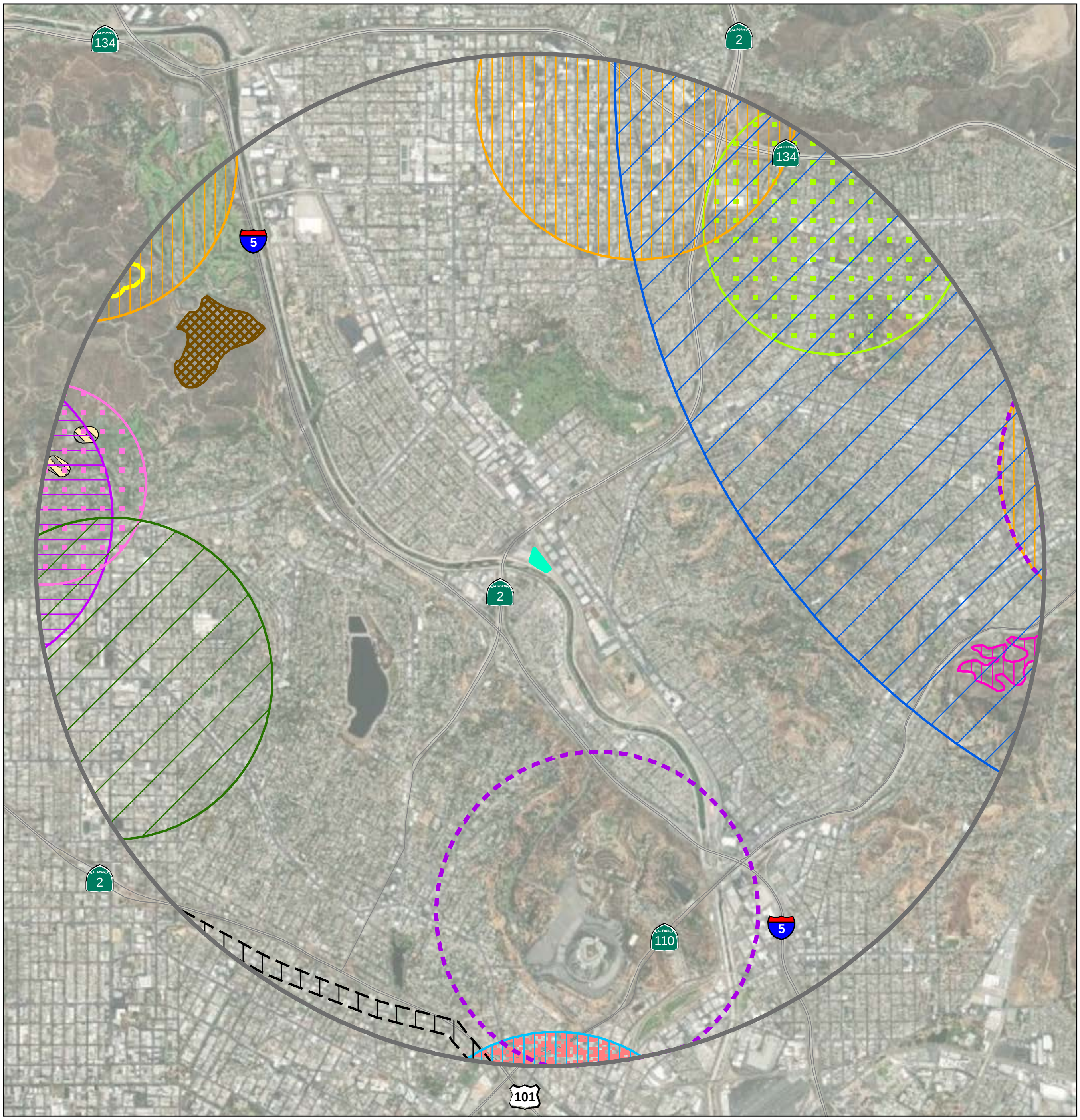


- Project Location
- 3 Mile Search Radius

Plants

- Davidson's saltscale
- Parish's gooseberry
- Greata's aster
- mesa horkelia
- lucky morning-glory
- southern tarplant
- prostrate vernal pool navarretia
- salt spring checkerbloom
- Nuttall's scrub oak
- many-stemmed dudleya
- Nevin's barberry

Terrestrial Communities

- Walnut Forest
- California Walnut Woodland
- Southern Sycamore Alder Riparian Woodland

0 2,500 5,000 Feet

(At original document size of 8.5x11)
1:60,000

N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

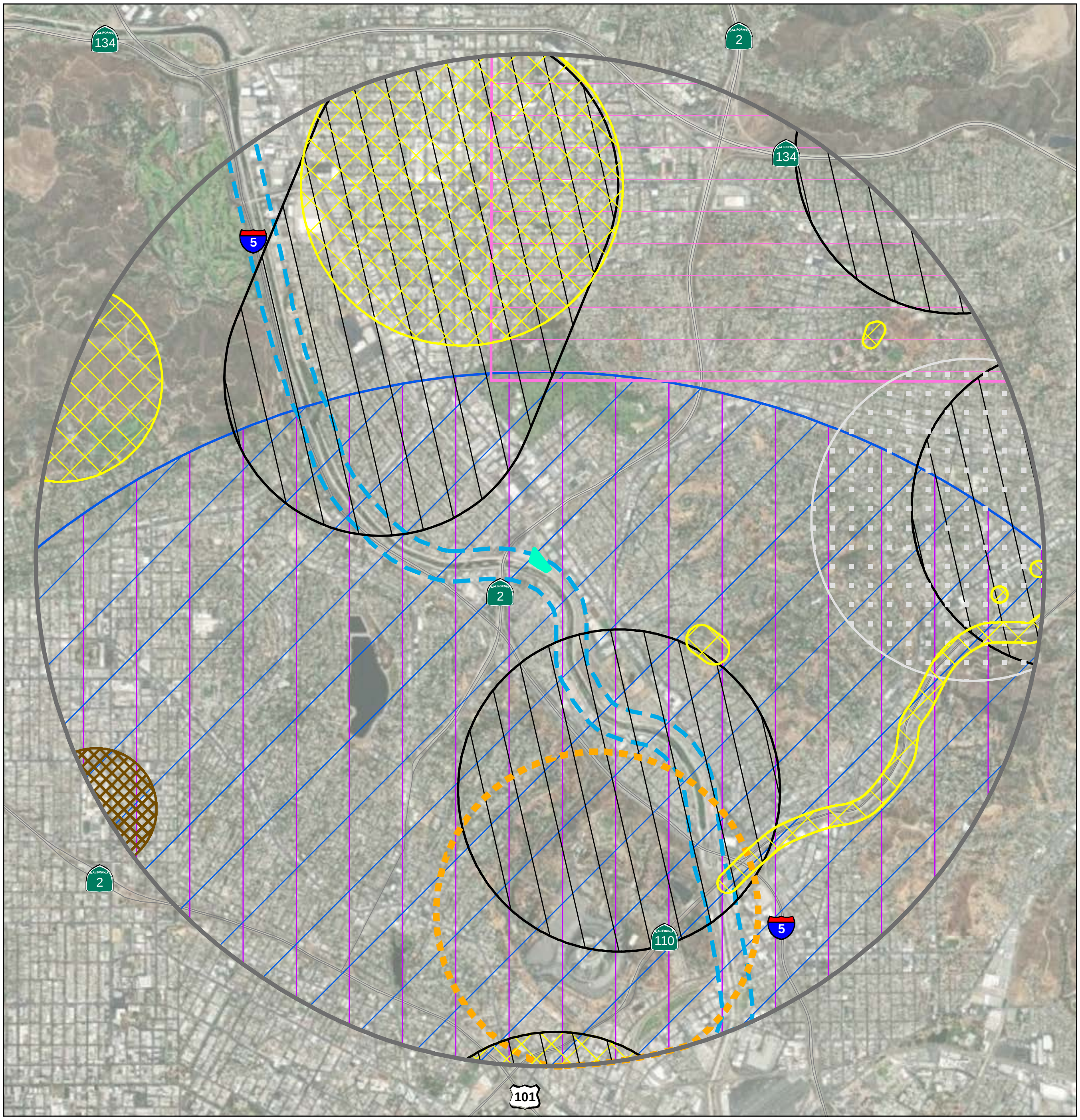
184031605

Figure No.
6a

Title
3 Mile CNDDB Results - Plants and Terrestrial Communities

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDDB data from CDFW 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

V:\1858\Active\184031605_Bowtie\gis\BRTR_Figure6a_3MileCNDDB_20220622.mxd   Revised: 2022-06-24 By: Dalaw



Project Location
3 Mile Search Radius
Wildlife
least Bell's vireo
yellow rail
Southern California legless lizard
San Gabriel chestnut
western ridged mussel
American peregrine falcon
coastal California gnatcatcher
American badger
burrowing owl

0 2,500 5,000 Feet
(At original document size of 8.5x11)
1:60,000

N

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

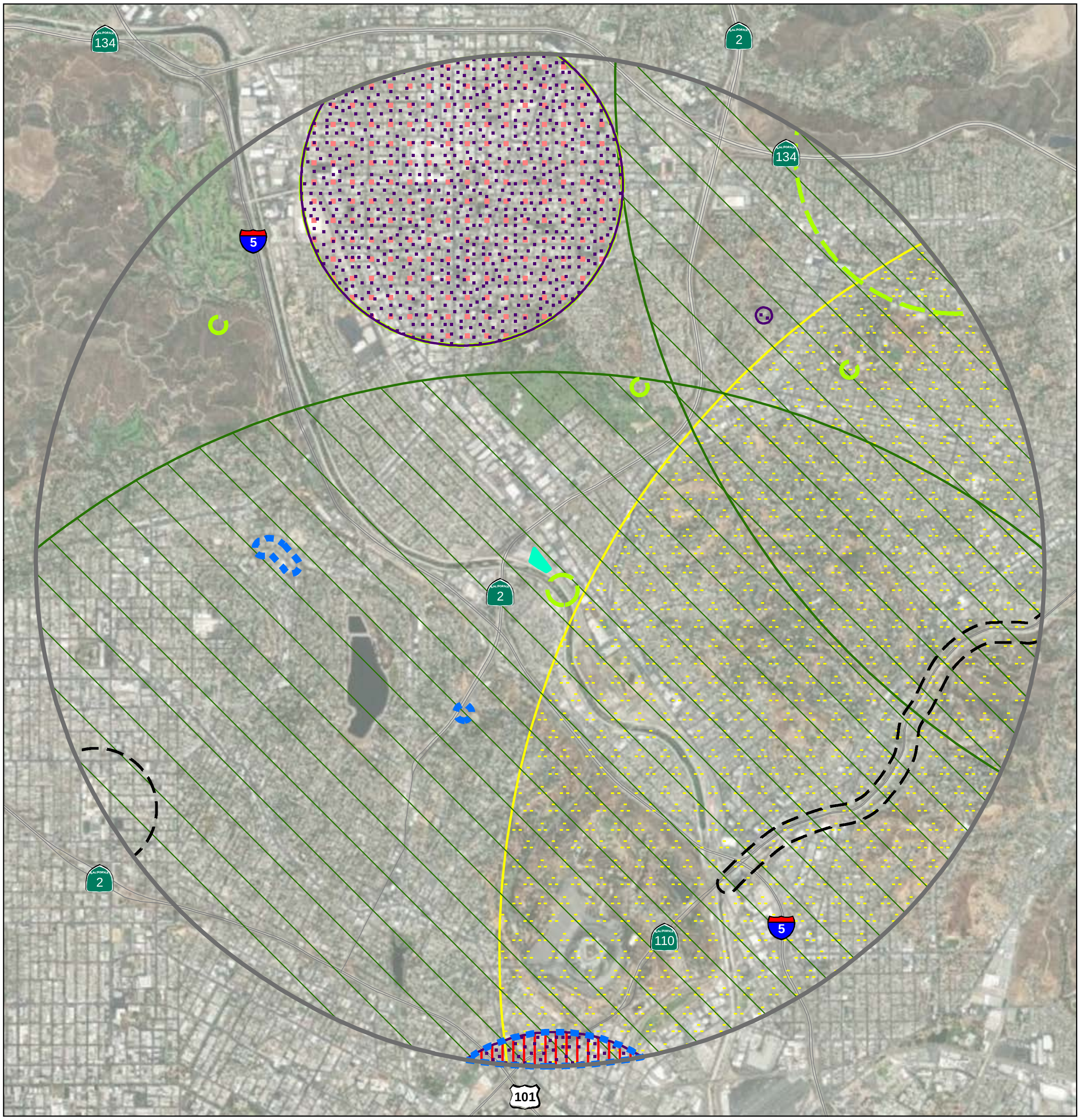
Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
6b

Title
3 Mile CNDDB Results - Wildlife

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDDB data from CDFW 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

V:\1858\Active\184031605_Bowtie\gis\BRTR_Figure6b_3MileCNDDB_20220622.mxd Revised: 2022-06-24 By: Dalaw



Project Location
3 Mile Search Radius
Wildlife Cont.
western mastiff bat
western yellow bat
hoary bat
western spadefoot
bank swallow
big free-tailed bat
Crotch bumble bee
southwestern willow flycatcher

0 2,500 5,000 Feet
(At original document size of 8.5x11)
1:60,000

Stantec

Project Location
APN: 5442-002-914, 5442-002-825
Los Angeles County, CA

Prepared by DL on 2022-06-22
TR by SET on 2022-06-22
IR by JV on 2022-06-22

Client/Project
184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
6c

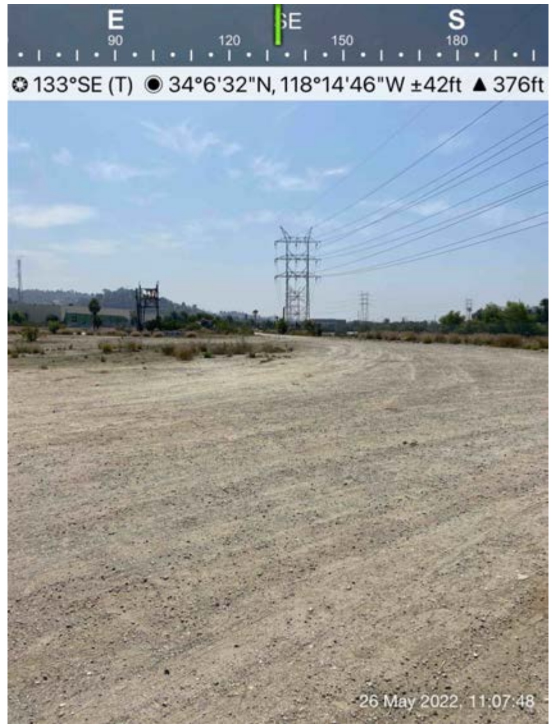
Title
3 Mile CNDDB Results - Wildlife

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDDB data from CDFW 2022.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

V:\1858\Active\184031605_Bowtie\gis\BRTR_Figure6c_3MileCNDDB_20220622.mxd Revised: 2022-06-24 By: Dalaw

Appendix B PHOTOGRAPHIC LOG

Client:	The Nature Conservancy	Project:	Bowtie Demonstration Project
Site Name:	Bowtie Parcel	Site Location:	34° 6'32.21"N 118°14'45.29"W

Photograph ID: 1 **Photo Location:** Bowtie Parcel, Los Angeles **Direction:** SE **Survey Date:** 5/26/2022 **Comments:** Distrubed/developed area within Project Area	
Photograph ID: 2 **Photo Location:** Bowtie Parcel, Los Angeles **Direction:** N **Survey Date:** 5/26/2022 **Comments:** Distrubed/developed area within Project Area	

Client:	**The Nature Conservancy**	**Project:**	**Bowtie Demonstration Project**
Site Name:	**Bowtie Parcel**	**Site Location:**	**34° 6'32.21"N 118°14'45.29"W**

Photograph ID: 3

Photo Location:
Bowtie Parcel, Los Angeles

Direction:
SE

Survey Date:
5/26/2022

Comments:
Disturbed/Developed area within Project Area

Photograph ID: 4

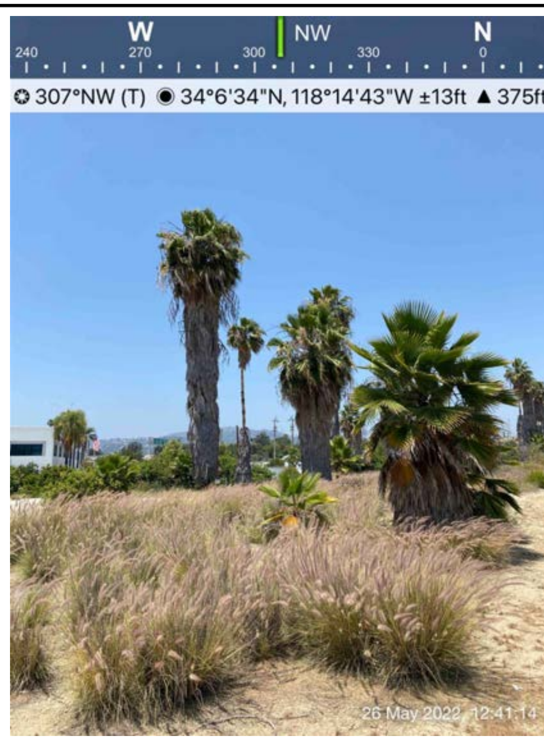
Photo Location:
Bowtie Parcel, Los Angeles

Direction:
SE

Survey Date:
5/26/2022

Comments:
California buckwheat scrub (restored)

Client:	The Nature Conservancy	Project:	Bowtie Demonstration Project
Site Name:	Bowtie Parcel	Site Location:	34° 6'32.21"N 118°14'45.29"W

Photograph ID: 5 **Photo Location:** Bowtie Parcel, Los Angeles **Direction:** SE **Survey Date:** 5/26/2022 **Comments:** Gooding's willow – red willow riparian woodland and forest alliance along Los Angles River	
Photograph ID: 6 **Photo Location:** Bowtie Parcel, Los Angeles **Direction:** NW **Survey Date:** 5/26/2022 **Comments:** Fountain grass swards	

Client:	The Nature Conservancy	Project:	Bowtie Demonstration Project
Site Name:	Bowtie Parcel	Site Location:	34° 6'32.21"N 118°14'45.29"W

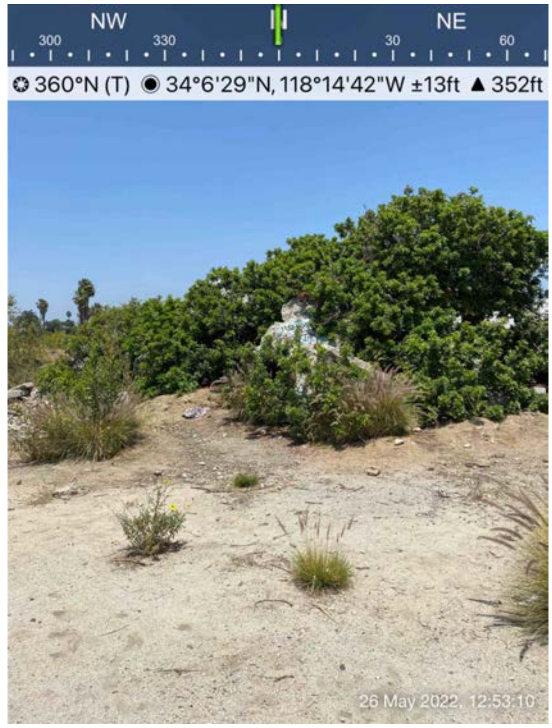
Photograph ID: 7

Photo Location:
Bowtie Parcel, Los Angeles

Direction:
N

Survey Date:
5/26/2022

Comments:
Ornamental non-native



APPENDIX C CULTURAL RESOURCES SURVEY REPORT

Stantec

CULTURAL RESOURCES SURVEY REPORT FOR THE NATURE CONSERVANCY, BOWTIE DEMONSTRATION WETLANDS PROJECT

City of Los Angeles, Los Angeles County, California

April 17, 2023

Prepared for:

The Nature Conservancy
445 South Figueroa Street
Suite 1950
Los Angeles, California 90071

Prepared by:

Dean Reed, MPS CHRM
Emily Rinaldi-Williams, MS HP, and
Shannon Loftus, MA HP, RPA

Stantec Consulting Services Inc.
911 South Primrose Avenue Unit N
Monrovia, California 91016

Project Number: 184031605

Project Summary

Report Title: Cultural Resources Survey Report for The Nature Conservancy, Bowtie Demonstration Wetlands Project

Principal Investigator: Shannon Loftus, MA HP, RPA

Field Director: Dean Reed, MPS CHRM

Report Author: Dean Reed, MPS CHRM, and Emily Rinaldi-Williams, MS HP, and Shannon Loftus, MA HP, RPA

7.5-minute Quad(s): Los Angeles, CA USGS

County: Los Angeles County

Landowner(s): California State Parks – Rio de Los Angeles

Permit No.: DPR 22-53

Fieldwork Authorization No.: N/A

Stantec Project No.: 184031605

Date(s) of Fieldwork: August 2, 2022

Survey Data Shapefile Provided: ■ Yes □ No

Site Data Shapefile Provided: ■ Yes □ No

Acres Surveyed: 3 acres

Miles Surveyed: N/A

Total Cultural Resources: 1

Newly Recorded Resources: 1

Previously Recorded Resources: 0

Resources Recommended Eligible: 0

Resources Recommended Ineligible: 0

Cultural Resources Survey Report for The Nature Conservancy Bowtie Demonstration Wetlands Project

The conclusions in the Report titled Cultural Resources Survey Report for The Nature Conservancy Bowtie Demonstration Wetlands Project are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the Nature Conservancy (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

Prepared by: Dean J. Reed

Signature

Dean Reed, MPS CHRM - Archaeologist

Printed Name

Prepared by: Emily Rinaldi

Signature

Emily Rinaldi, MS HP – Architectural Historian

Printed Name

Reviewed and approved by: Shannon Loftus

Signature

Shannon Loftus, MA HP, RPA
Principal-Cultural Resources Lead

Printed Name

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Executive Summary

This report presents the results of a cultural resources Phase I study conducted by Stantec under contract to The Nature Conservancy (TNC). The work was conducted in support of the Bowtie Demonstration Wetlands Project (Project) in the City of Los Angeles, Los Angeles County, California. The study included a records search, review of historical United States Geological Survey (USGS) maps, Sanborn maps, and aerial imagery, and an intensive-level pedestrian survey of the 3-acre Project area.

The entire Project area makes up the northern portion of the Bowtie Parcel (APN: 5442-002-914, 5442-002-825), which was historically part of the Taylor Yard, a Southern Pacific Railroad service railway station and classification yard. Southern Pacific occupied Taylor Yard from 1925 through 1985, after which time almost all the buildings and structures related to the site's railroad use were demolished. This Phase I study revealed that historical features of the Taylor Yard remain within the Project area including building foundations, a railroad sign, and an isolated railroad spike. Collectively, the features and the isolated artifact identified during the survey were given a temporary site number R220803-74-01 and documented on the appropriate California Department of Parks and Recreation (DPR) 523 forms. No other cultural resources (prehistoric, tribal, of historic-era) were identified during the survey.

Taylor Yard has never been inventoried or evaluated for its eligibility for listing in the CRHR or NRHP. It is seemingly important to local regional history and contained several pieces of infrastructure that may have been critical to the development of the Los Angeles basin. A full investigation an evaluation of Taylor Yard would be needed to determine its historical significance. However, the newly recorded site, R220803-74-01, does not indicate a significant historical association with the yard.

The native sediment of the general area consists of unconsolidated alluvial sediments along the Los Angeles River. The background research, historical maps, and aerial images of the Project area indicate extensive ground disturbance starting as early as 1914 and well into the 1940s. The Project area was entirely paved, and buildings had been constructed by the 1960s, and were demolished by 1988. The entire Project area is highly disturbed and has been mechanically altered several times throughout the 20th-century, which has significantly undermined the integrity of the R220803-74-01.

The built-environment remains observed on the surface and the site's history suggest potential for presence of buried historic-era features related to the Taylor Yard as no soil remediation occurred in these areas. The built-environment remains should not affect the Project in terms of construction and design planning. The surviving components of the Taylor Yard within the Project area do not appear to constitute a historical resource, as defined under CEQA (i.e., resources eligible for the CRHR), or a historic property as defined under the NHPA. Therefore, they are recommended as not eligible for listing. However, given that the construction work will significantly impact R220803-74-01, Stantec is recommending that an archaeological monitor be present during ground disturbance activities. In addition, a worker environmental awareness program (WEAP) should be developed to provide workers with training for treating known cultural resources, and potential discoveries of presently undocumented resources, within the Project area, and instruction on compliance with mitigation measures developed for the Project.

With respect to prehistoric resources, identifications during construction is unlikely given the extensive disturbance to the Project area as a result of three-quarters of a century of railroad yard development and subsequent demolition. However, Stantec recommends the lead agencies continue engagement and consultation with the interested Native American tribes given ancestral homeland connection by the Gabrielino/Tongva People.

Acronyms / Abbreviations

ACHP	Advisory Council of Historic Preservation
AD	anno domini
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
BC	Before Christ
CCR	California Code Regulation
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
EO	Executive Order
HCM	Historic Cultural Monument
LARER	Los Angeles River Ecosystem
Ma	Mega-aanum (million years ago)
MLD	Most Likely Descendant
NAGPRA	Native American Graves Protection Act
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NPS	National Parks Service
NRHP	National Register of Historic Places / Properties
PRC	Public Resources Code
SHPO	State Historic Preservation Officer
SOI	Secretary of the Interior
TNC	The Nature Conservancy
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WEAP	Worker Environmental Awareness Program

1 Project Location and Description

Stantec, under contract to The Nature Conservancy (TNC), conducted a cultural resources Phase I study in support of the Bowtie Demonstration Wetlands Project (Project). The Project is also a small segment of the Los Angeles River Ecosystem (LARER) Project, an overarching project meant to improve ecosystem function in, and along, approximately 11 miles of the Los Angeles River channel. The LARER project is being done in partnership with the U.S. Army Corps of Engineers (USACE) and the City of Los Angeles.

The Project is located on California State Parks land and proposed in partnership with State Parks and sponsored by The Nature Conservancy. The Project area is a 3-acre area in the northern portion of the Bowtie Parcel (APN: 5442-002-914, 5442-002-825), a paved former industrial landscape on the east bank of the Los Angeles River, in Rios de Los Angeles State Park / State Recreation Area, City of Los Angeles, Los Angeles County, California. The Project is in Section 04, Township 01 South, Range 13 West, San Bernardino Baseline and Meridian, as depicted on the United States Geologic Survey (USGS) *Los Angeles, California* (1966) 7.5’ topographic quadrangle (Figure 1).

The Project is situated within a primarily industrial area, with some residential land uses to the north and east, along with a few commercial developments. The parcel was previously part of Taylor Yard, a Southern Pacific Railroad service railway station and classification yard. Active railroad tracks for Amtrak, Metrolink, and freight trains border the eastern boundary of the parcel.

The purpose of the Project is to maximize water quality for compliance with regional goals, to provide healthful public access to open space, and to recreate and protect natural habitat alongside the Los Angeles River. The existing design of the Project includes shallow soil removal (up to two feet deep) and the diverting water from an existing concrete storm drain that leads to the Los Angeles River. A diversion vault will divert 85% of storm water to a pump station, where it will be brought to the surface, and pre-treated. The pre-treated water will flow into the wetland, where the water will be treated and stored to sustain the habitat. The wetland is designed to contain 0.46 acre-feet of storage in gravels and 2.98 acre-feet in surface water, treating 57 percent of the storm water. Water that is not treated will flow through the storm drain, bypassing the pre-treatment and wetland, to discharge into the Los Angeles River.

1.1 Area of Potential Effect

The Area of Potential Effect (APE) encompasses the entire project site and proposed location for potential soil-spoil relocation area (Figures 1 through 3). The latter area is not confirmed at this time and is only part of the draft design. It is within the limits of the Project Area and the total area of the APE is 3 acres. The APE and the survey area are the same.

2 Regulatory Setting

2.1 Federal Regulatory Setting

2.1.1 Antiquities Act of 1906 (16 USC § 431 et seq).

Presidential authority was given for the establishment of national monuments as *"historic landmarks, historic and prehistoric structures, and other objects of historic and scientific interest"* (34 Statute 225: Section 2). The act also specifics that violators are subject to criminal charges on lands managed by the federal government. Section 3 (34 Statute 225) of the Antiquities Act discusses allowance for permitted scientific and academic investigation for edification purposes.

2.1.2 Historic Sites Act of 1935 (Pl 74-292; 49 Stat. 666; 16 USC 461-467)

"*An Act to Provide for the Preservation of Historic America Sites, Buildings, Objects, and Antiquities of National Significance*," otherwise known as the Historic Sites Act of 1935 was enacted after the establishment of the National Parks Service (NPS) in 1916 as national policy giving the Secretary of the Interior (SOI) the authority to identify and evaluate or consideration of preservation those *"…historic sites, building, and objects of national significance for the inspiration and benefit of the people of the United States*."

2.1.3 National Historic Preservation Act of 1966 (as amended)

The National Historic Preservation Act (NHPA) gives authority to the SOI to establish an Advisory Council on Historic Preservation (ACHP). The Act requires federal agencies to take into account the effects proposed undertakings may have upon historic properties, as well as tasking agencies with preservation of historic properties (80 Stat. 915). In addition, the ACHP is permitted to render opinion on the recommendations of effect on listed or eligible historic properties. Historic properties are defined as "*districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, and culture"* (80 Stat. 915: Sec. 101(a)1(A)) that are listed in or eligible for the National Register of Historic Places (NRHP), also established as part of the Act.

The 36 CFR 800, Protection of Historic Properties, Regulation of the ACHP Government the Section 106 Review Process. was amended in 1992 and again in 1999, with Section 106 stating: *'The head of any Federal Agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under Title II of the Act a reasonable opportunity to comment with regard to such undertaking (80 Stat. 915: Sec. 106)."*

The Section 106 process requires determination of an undertaking as part of (36 Code of Federal Regulation [CFR] 800.3) and as defined by 36 CFR 800.16(y). Once established, 36 CFR 800.4 guides implementation of:

- determine the scope of identification efforts;
- identify historic properties;
- evaluate historic significance;
- and provide the results of identification and evaluation efforts.

Historic properties, unless extenuating circumstances exist, must be a minimum of 50 years of age and meet one of the following criteria per 36 CFR 60.4:

A. Associated with events that have made a significant contribution to the broad patterns of our history

B. Associated with the lives of persons significant in our past

C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

D. Have yielded, or may be likely to yield, information important in prehistory or history

In addition, a historic property must retain an element of integrity, the measure by which the significance is conveyed. There are seven aspects of integrity to consider: *location, design, setting, materials, workmanship, feeling, and association*. Determination of eligibility in recognition of historic property status is decided in consultation between agency and the State Historic Preservation Officer (SHPO) through formal Section 106 compliance and/or formal nomination arising from a non-project related recommendation. Section 106 not only applies to historic buildings, structures, and objects. These were addressed during the 1986 amendment. Archaeological sites are also afforded "Protection of Historic Properties" (36 CFR Part 800) pursuant to definition as an *"archaeological resource"* (54 U.S.C. 302902).

In addition to Section 106, Section 110 of the NHPA directs federal land managers to ensure the preservation of historic properties. Preservation of historic properties is implemented via agency-specific programs to identify, evaluate, nominate, and protect. Section 110 involves likened formal consultation with federal and state agencies.

Section 106 and 110 also require consultation with federally recognized Native American Tribes.

2.1.4 National Environmental Policy Act of 1969

Passed with the intent, in part, of preservation of "…important historic, cultural, and natural aspects of our national heritage." Often implemented via the NHPA (Sections 101, 106 and 110).

2.1.5 Archaeological and Historic Preservation Act of 1974 (54 USC §312501 - 312503)

This act expanded upon the Historic Sites Act of 1935 to ensure that historic and archaeological data be preserved if subject to loss or destruction as a result of a federal or federally funded or licensed/permitted undertaking.

2.1.6 American Indian Religious Freedom Act of 1978

This act was passed to acknowledge past violation of and with the intent to ensure in perpetuity that the Constitutional First Amendment rights of the American Indian, Eskimo, Aleut, or Native Hawaiian are not violated. This act grants American Indians, Eskimos, Aleuts, and Native Hawaiians access to their sacred sites, freedom to worship and perform their ceremonial and traditional rites (even when incarcerated), and the repatriation and use and possession of objects considered sacred.

2.1.7 Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act (ARPA) of 1979 was designed to address the earlier Antiquities Act of 1906 as means "to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites which are on public lands and Indian lands" (93 Stat. 72: Sect. 2(b). Moreover, Section 3 of the ARPA provides for a more definitive explanation of what constituted and archaeological resource: *"any material remains of past human life or activities which are of archaeological interest as determined under uniform regulations promulgated pursuant to the Act. Such regulations containing such determination shall include, but not be limited to: pottery, basketry, bottles, weaponry, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal material, or any portion or piece of any of the foregoing items. Nonfossilized and fossilized paleontological specimens, or any portion or piece thereof, shall not be considered archaeological resources, under the regulation under this paragraph, unless found in an archaeological context. No item shall be treated as an archaeological resource under regulations under this paragraph unless such item is at least 100 years of age (93 Stat. 72: Sec. 3(1)."* Thereby, the ARPA requires a permit for excavation or removal of archaeological resources from public or Indian lands and carries civil and criminal penalties pursuant to violation."

2.1.8 Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (PL 101-601) was implemented to reinstate the rights of Native Americans and Native Hawaiians when it comes to the disposition of decedent remains and cultural property identified or recovered on lands managed by federal agencies and Tribes. This act provided for the repatriation of such remains and funerary objects and transfer or ownership back to the Tribes from that of federal agencies or museums via Section 5, which states: "Each Federal agency and each museum which has possession or control over holdings or collections of Native American human remains and associated funerary objects shall compile an inventory or such items and, to the extent possible based on information possessed by such museum or Federal agency, identify the geographical and cultural affiliation of such item (104 Stat. 3050:Sec. 5(a). Once notification has been made, the Tribe may request that the remains or objects be returned to them, and pursuant to Section 7, this agency or museum "shall expeditiously return" any such remains, associated funerary objects, or other objects (104 Stat. 3050: Sec 7(a) (1-2).

2.1.9 Executive Order No. 11593

The Executive Order (EO) No. 11593 occurred in 1971 and was coined "Protection and Enhancement of the Cultural Environment" (54 U.S.C. 300101; 16 U.S.C 470), requires that federal agencies implement Section 110 in 1973, and was subsequently the catalyst for the 1992 amendment to the NHPA.

2.1.10 Executive Order No. 13007

In 1996, implementation of EO 13007, "Indian Sacred Sites" (61 FR 267711), directed federal land managing agencies to "accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners," and to "avoid adversely affecting the physical integrity of such sacred sites." Additionally, "where appropriate, agencies shall maintain the confidentiality of sacred sites" (61 FR 26771 Sec. 1 (a) (1-2). Combined with NAGPRA, these two pieces of legislation go a long way to facilitating federal preservation of American Indian religious freedom and repatriation of their deceased and their deceased's grave and sacred goods.

2.2 State of California Regulatory Setting

2.2.1 California Environmental Quality Act

The proposed Project is subject to California Environmental Quality Act (CEQA), and the lead agency (California Department of Parks and Recreation [DPR]) is required to comply with the CEQA Statute and Guidelines (as amended through 2015). CEQA requires that the lead agency determine if cultural resources that could be affected by project activities are "historical resources," and whether project activities will have a significant impact on these resources (California Code Regulation [CCR], § 15064.5[b]).

A cultural resource is considered "historically significant" if the resource is 50 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets the requirements for listing in the California Register of Historical Resources (CRHR) under any one of the following criteria (Title 14 CCR, § 15064.5):

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) 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 value; or,
4) Has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed in the NRHP and those formally Determined Eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; or,
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion on the CRHR.

Other resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the NRHP, the CRHR, and/or a local jurisdiction register);

- Individual historical resources;
- Historical resources contributing to historic districts; or,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

The fact that a resource is not listed in, or determined to be eligible for, listing in the CRHR, or is not included in a local register of historical resources, does not preclude a lead agency from determining that the resource may be a historical resource. According to Appendix G of the CEQA Guidelines, a project would have a significant effect on the environment if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or,
- Disturb any human remains, including those interred outside of formal cemeteries.

CEQA Guidelines Section 15064.5(e) also requires that excavation activities be stopped whenever human remains are uncovered and that the County Coroner assess the remains. If the County Coroner determines the remains are Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the most likely descendant (MLD), if any, as identified by the NAHC. Section 15064.5 directs the lead agency (or project proponent), under certain circumstances, to develop an agreement with the MLD for the treatment and disposition of the remains, or to rebury the remains in an area not subject to further disturbance if the MLD fails to make a recommendation within 48 hours of being granted access to the remains. The historical significance of the artifacts discovered during monitoring of Project activities will be determined based on these criteria set by the CEQA.

2.2.2 State of California Public Resources Code

Archaeological, paleontological, and historical sites are protected pursuant to policies and regulations enumerated under the California Public Resources Code (PRC). Sections of the PRC that pertain to cultural resource include:

- California PRC Sections 5020–5029.5 include reference to the State Historical Resources Commission. The commission oversees the administration of the CRHR and is responsible for the designation of State Historical Landmarks and Historical Points of Interest.
- California PRC Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of California's historical resources and to indicate which resources are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established federal criteria for listing in the National Register of Historic Places (NRHP).
- California PRC 5024 and 5024.5 was enacted by the California State Legislature as part of a larger effort to establish a state program to preserve historical resources. These particular sections of the code require state agencies to take a number of actions to ensure preservation of state-owned historical resources under their jurisdictions. These actions include evaluating

resources for National Register of Historic Places (National Register) eligibility and California Historical Landmark (California Landmark) eligibility; maintaining an inventory of eligible and listed resources; and managing these historical resources so that that they will retain their historic characteristics.

- California PRC Sections 5079–5079.65 define the functions and duties of the Office of Historic Preservation (OHP). The OHP is responsible for the administration of federally and state-mandated historic preservation programs in California and the California Heritage Fund.
- California PRC Sections 5097.9–5097.991 provide protection to Native American cultural resources and sacred sites and identify the powers and duties of the NAHC. It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods.
- California PRC Section 21074 outlines the definition of “Tribal cultural resources,” which are included or determined by a lead agency to be eligible for inclusion in the CRHR and/or local register of historical resources.
- California PRC Sections 21084.2-20084.3 states the requirement that public agencies avoid damaging effects to Tribal cultural resources, when feasible. It also provides examples of mitigation measures that may be implemented to avoid or minimize the significant adverse impacts to Tribal cultural resources, if said impacts are determined by the lead agency.

2.2.3 State of California Health and Safety Code

The California Health and Safety Code Section 7050.5(b) specifies protocols when human remains are discovered. Specifically, burials or human remains are not to be disturbed or removed unless by authority of law, and the area of a discovery of human remains should remain undisturbed until the County Coroner is notified and has examined the remains prior to determining the appropriate course of action.

2.3 Local Regulatory Setting

2.3.1 CITY OF LOS ANGELES HISTORIC PRESERVATION ORDINANCE

The Los Angeles City Council adopted the Cultural Heritage Ordinance in 1962 and amended it in 2018 (Ordinance No. 185472).[1] The Ordinance created a Cultural Heritage Commission and criteria for designating Historic-Cultural Monuments (HCM). The Commission comprises five citizens, appointed by the mayor, who have exhibited knowledge of Los Angeles history, culture, and architecture. The three criteria for HCM designation are stated below:

1. The proposed HCM is identified with important events of national, state, or local history, or exemplifies significant contributions to the broad cultural, economic, or social history of the nation, state, or community; or
2. The proposed HCM is associated with the lives of historic personages important to national, state, or local history; or

[1] Los Angeles Administrative Code §22.171 of Article 1, Chapter 9, Division 22.

3. The proposed HCM embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder, or architect whose individual genius influenced his or her age.

Unlike the National and California Registers, the Ordinance makes no mention of concepts such as physical integrity or period of significance. Moreover, properties do not have to reach a minimum age requirement, such as 50 years, to be designated as HCMs.

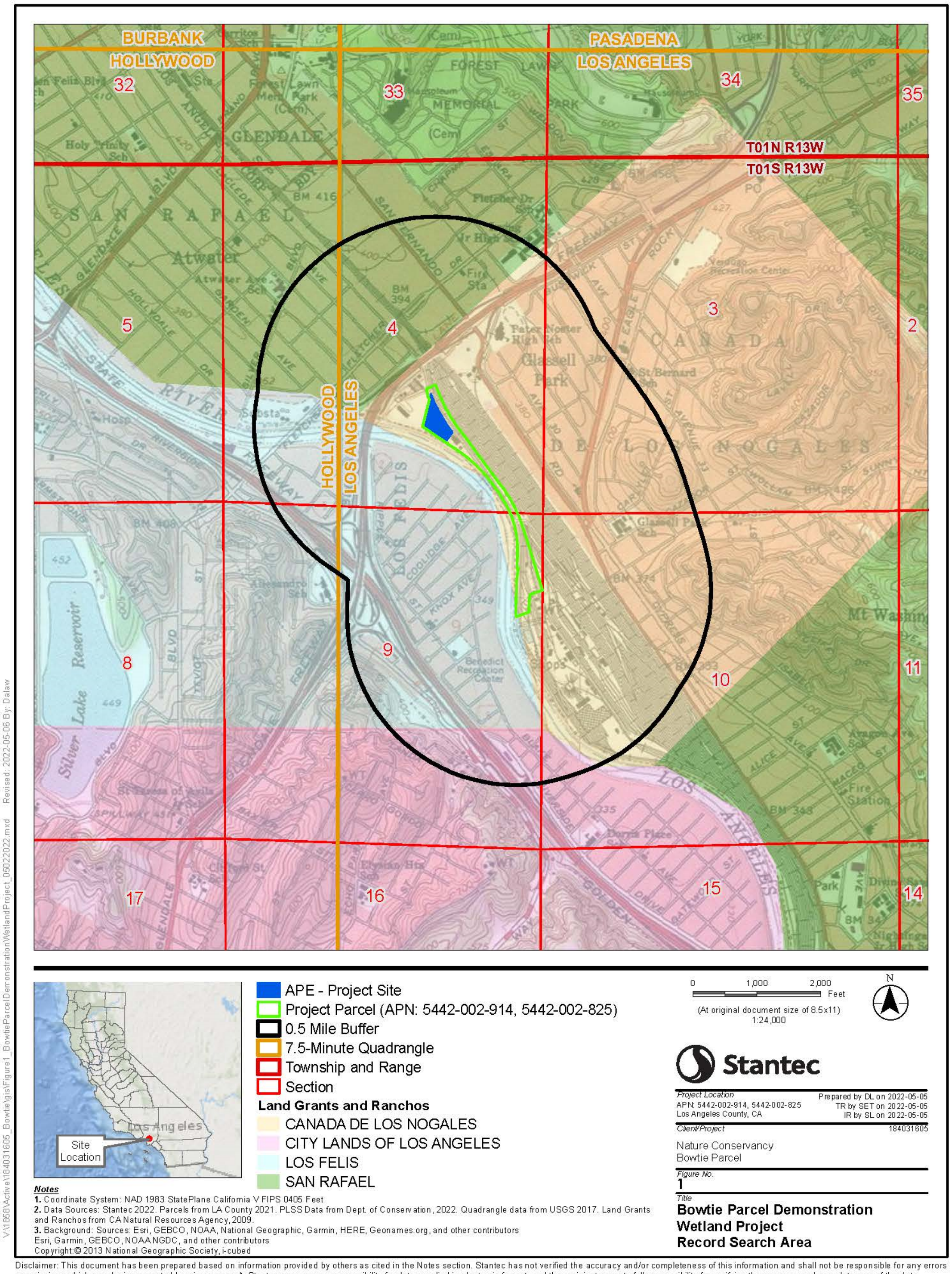

Figure 1. Project location within Bowtie Parcel, and 0.5-mile Records Search Area (Study Area)

Figure 2. Project Area Aerial Image

Figure 3. Project Area Detail, Aerial Image

3 Setting

Brief summaries of the Project area environmental and cultural resources settings are provided below.

3.1 Environmental Setting

The Project area consists of a vacant segment of land within the northern portion of the Bowtie Parcel (APN: 5442-002-914, 5442-002-825), a concrete former industrial landscape on the east bank of the Los Angeles River, in Glassell Park, City of Los Angeles. The area stretches along the eastern boundary of the Los Angeles River and west of a railroad corridor and commercial industrial complex south of the Glendale Freeway (CA-2) and is within the “Glendale Narrows” region of the Los Angeles River. This region is one of the four sections of the Los Angeles River that has an earthen bottom.

The general topography of the project area is fairly flat and is at approximately 371 feet above mean sea level along the river valley floodplain. The pre-industrial landscape of the Los Angeles River corridor would have supported riparian zone flora. Some of the native plant species would have included Arroyo Willows (*Saliz Iasiolepsis*), Cattails (*Typha dominguinsis*), Soft rush (*Juncus effusus*), Swamp sedge (*Carex senta*), Watercress (*Rorippa nasturtium-aquaticum*), Winkled rush (*Juncus fugulosus*), and Toad rush (*Juncus bufonius*). The river area as described above may support a variety of bird species including the egret, heron, and duck, the American White Pelican, Red-winged Blackbird, Black Phoebe, as well as migrating birds such as the Canadian goose (Linton 2005). Much of the area has been developed for industrial, commercial, and residential use. The regional climate is characterized as Mediterranean, with hot, dry summers and cool, wet winters.

The Project area is in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges Geomorphic Province (Ingersoll and Rumelhart 1999). The Los Angeles basin developed because of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 – 3 million years ago (Ma) (Critelli et al. 1995). While sediments dating back to the Cretaceous (66 million years ago) are preserved in the basin, continuous sedimentation began in the Middle Miocene (around 13 million years ago) and continues today, resulting in thousands of feet of accumulation (Yerkes et al. 1965). Most of these sediments are marine which were overlain beginning in the Pleistocene when sea level dropped, and deposition was of alluvial sediments composing the uppermost geologic units in the Los Angeles Basin.

The Los Angeles Basin is subdivided into four structural blocks. The Project area is situated within the northernmost edge of the Central Block, where sediments range from 32,000 to 35,000 feet thick (Yerkes et al. 1965). The Central Block is wedge-shaped, and extends from the Santa Monica Mountains in the northwest, where it is about 10 miles wide, to the San Joaquin Hills in the southeast, where it widens to around 20 miles across (Yerkes et al. 1965). The Project area is in the Elysian Hills, a structural anticlinorium, or uplifted fold of bedrock, which formed from fault activity 2.9 Ma, resulting in the exposure of Miocene-aged marine rocks at the surface (Meigs and Cooke 2003).

The Project area surface geology is mapped by Dibblee and Ehrenspeck (1989) as alluvial sediment along the Los Angeles River. This is in keeping with the geotechnical study which found the Project area to be disturbed and a mix of alluvium and artificial fill (Geotek 2021). Mapping by Yerkes and Campbell (2005) identifies the soils as alluvial fan deposits, older alluvial deposits, and Puente Formation likely present. These sediments consist of unconsolidated silt, sand, and gravel deposited as a result of the early Holocene or late Pleistocene erosional processes of the surrounding highlands.

The artificial fill layer extends to a depth of about 4-feet and consists mostly of silty sands. While artificial fill overwhelmingly lacks sensitivity for prehistoric resources, it does not necessarily negate sensitivity for historic-era resources as the importing of the fill material may have occurred in association with historic-era human activity. Fill may have also come directly from the Los Angeles River during channelization.

3.2 Cultural Setting

A summary of the cultural setting is provided below to place the Project area within relevant temporal and ethnographic settings. These settings inform expectations of the types of resources that could be encountered and provide context for which cultural resources might be assessed for significance.

3.2.1 PREHISTORIC OVERVIEW

The chronology of southern California is typically divided into three general time periods: The Early Holocene (9,600 B.C. to 5,600 B.C.), the Middle Holocene (5,600 B.C. to 1,650 B.C.), and the Late Holocene (1,650 B.C. to A.D. 1769). This chronology is characterized in the archaeological record by the presence of particular artifacts and other practices that indicate specific technologies, economies, and trade networks.

Early Holocene (9,600 B.C to 5,600 B.C)

It is not certain when humans first came to California; however, human occupation in southern California is well documented by roughly 9,600 B.C. During the Early Holocene, the climate of southern California became much warmer and more arid. Human populations were made up of small hunter-gatherer groups, residing mainly in coastal or inland desert areas, and began exploiting a wider range of plant and animal resources (Byrd and Raab 2007).

Middle Holocene (5,600 B.C. to 1,650 B.C.)

During the Middle Holocene, there is evidence of a shift toward a more diverse economy, and subsistence systems focused on plant foods and foraging. The first confirmed evidence of human occupation in the Los Angeles area is associated with the Millingstone cultures that appeared in California around 6,000 to 5,000 B.C. (Byrd and Raab 2007; Wallace 1955; Warren 1968). Millingstone cultures were characterized by the collection and processing of plant foods, such as acorns, and the hunting of a wider variety of game animals (Byrd and Raab 2007; Wallace 1955). They also established more permanent settlements that were located primarily on the coast and in the vicinity of areas with an abundance of resources. Early Millingstone occupations are typically identified by the presence of handstones and millingstones, while those Millingstone occupations dating later than approximately 3,000 B.C. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Late Holocene (1,650 B.C. to A.D. 1769)

During the Late Holocene, many aspects of Millingstone culture persisted, but several socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). The native populations of southern California were becoming less mobile. Smaller and more sedentary villages with satellite resource-gathering camps became more common. An increasing population made it necessary to exploit more terrestrial and marine resources (Erlandson 1994). The exploitation of larger, higher-ranked food sources may have led to a shift in subsistence strategies, where there was more of a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab 2007). The Late Holocene also marks a period in which more specialized labor began to emerge, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Trade during this period reached its zenith as asphaltum (tar), seashells, and steatite were traded from Catalina Island (*Pimu* or *Pimugna)* and coastal southern California to the Great Basin. The bow and arrow were introduced sometime after A.D. 500, replacing the dart and atlatl (Byrd and Raab 2007).

In Los Angeles, Orange, western Riverside, and southwestern San Bernardino Counties, the introduction of cremation, elaborate burial practices with grave goods, pottery, and small triangular arrow points are thought to have resulted from Takic migration to the coast from inland desert regions. This Takic or Numic Tradition was formerly referred to as the “Shoshonean wedge” or “Shoshonean intrusion” (Warren 1968). This terminology, used originally to describe an Uto-Aztecan language group, is generally no longer employed to avoid confusion with ethnohistoric and modern Shoshonean groups who spoke Numic languages (Heizer 1978:5; Shipley 1978:88, 90).

3.2.1 ETHNOGRAPHIC OVERVIEW

The Project area is in the region known to have been occupied by the Gabrielino (also known as Tongva). The Gabrielino were one of several Takic-speaking groups in Southern California at the time of Spanish contact. The term “Gabrielino” came from the period of missionization with Mission San Gabriel Archangel, established in 1771.

3.2.1.1 Gabrielino/Tongva

The Gabrielino occupied the southern Channel Islands, the Los Angeles basin, much of Orange County, and extended as far east as the western San Bernardino Valley. They established villages located along rivers and at the mouths of canyons. Populations ranged from 50 to 200 inhabitants. Residential structures within the villages were domed, circular, and made from thatched tule or other available wood. Gabrielino society was organized by kinship groups, with each group composed of several related families who together owned hunting and gathering territories. Settlement patterns varied according to the availability of floral and faunal resources (Bean and Smith 1978; McCawley 1996; Miller 1991).

The Gabrielino were fisher/ hunter-gatherers that exploited a wide array of marine and terrestrial game as well as acorns, Islay, pinion nut, and a wide array of seeds, roots, and other plant materials (Bean and Smith 1978; McCawley 1996; Miller 1991). The Gabrielino utilized plank canoes (te’aat), dugout canoes, nets, shellfish hooks, harpoons, and traps to exploit a wide array of deep-sea fish, marine mammals, and shellfish. They hunted large game with bow and arrow, and used traps, nets and throwing sticks for small game. Plant processing was done with groundstone milling equipment, baskets, and seed beaters. The Gabrielino had a wide array of decorative and ceremonial objects made from steatite, brownware ceramics, bone, shell, asphaltum, and wood.

By the late 18th century, Gabrielino had significantly dwindled due to introduced European diseases and dietary deficiencies. Gabrielino communities disintegrated as families were taken to the missions (Bean and Smith 1978; McCawley 1996; Miller 1991). However, current descendants of the Gabrielino are preserving Gabrielino culture. Of the Gabrielino groups or tribes, none are federally registered; however, the state does recognize several groups of Gabrielino descent. The nearest Gabrielino villages to the Project according to McCawley include Maungna, near Rancho Los Felis, and Haahamonga, near present-day Glendale (tongvapeople.org N.D.)

3.2.2 HISTORIC-ERA OVERVIEW

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake’s Bay or Bodega Bay in

1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978). Vizcaíno also named San Diego Bay to commemorate Saint Didacus. The name began to appear on European maps of the New World by 1624 (Gudde 1998:332). The historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Mission Period (1769–1821)

The return of Spanish presence in California was marked by the 1769 Serra-Portola Expedition, led by Junipero Serra along with Gaspar de Portola. Serra had led the expedition under the authorization of Jose de Galvez, the Visitador of New Spain. Serra was granted leadership of this expeditions because of the military's deep history of abusing the native people they were supposed to be protecting. Serra had experienced how the miliary abuse impeded, or often prevented, the Spanish Franciscans' missionization efforts (Hackel 2013; Sandos 2004; Treutlein 1968; Weber 2009). Shortly thereafter, Spain began to establish a system of pueblos, presidios, ranchos, and missions along the California coast to bolster Spanish settlement. The missionaries established a system of 21 missions along El Camino Real and enacted the practice of missionization or forced removal and "cultural education" of native people. The Missions of San Gabriel and San Fernando were founded in 1771 and 1797, respectively. Twelve families from the already missionized native peoples of what is now Sonora and Sinaloa were brought in to establish the Pueblo de Los Angeles in 1781, near the Los Angeles River in what is now downtown Los Angeles. They were given land tools for successful agricultural production, allowing a higher rate of profitability (Jones 2018; Starr 2015).

The Gabrielino were forcefully integrated into Mission San Gabriel. The Gabrielino worked as farmers or craftsmen or grazing herds in the valley. Integration devastated the Native American groups through the introduction of diseases to which they had no immunity and through the loss of traditional lifestyles. The Spanish period began a decline in 1821, when Mexico gained independence from Spain and subsequently secularized the missions (Bean and Smith 1978; McCawley 1996; Miller 1991).

Mexican Rancho Period (1821–1848)

During the Spanish and subsequent Mexican periods, ranchos were a concession-granting system that awarded many military officers with large tracts of land for settlement and raising livestock. In 1821, the Mexican government closed the missions, and former mission lands were granted to retired soldiers and other Mexican citizens. Much of the land along the coast and in the interior valleys became part of Mexican ranchos used primarily as cattle ranches (Robinson 1948). In 1833, the government required land be set aside for each Native American family. But the requirement was quickly brushed aside by Californios who, with the help of those in power, acquired the church lands as grants. Native peoples were forced to work on the rancheros.

The ranchos established land-use patterns still used today. Rancho boundaries became the basis for California's land survey system and are found on modern maps and land titles. The rancheros (rancho owners) patterned themselves after the landed gentry of New Spain, primarily raising cattle or sheep (Robinson 1948).

The Project area is within a portion of land known as Rancho Cañada de Los Nogales, meaning "canyon of the walnut trees." It was established in 1844, when it was granted to José Maria Aguilar by Governor Manuel Micheltorena (Hoffman 1862). Aguilar was a Los Angeles official. His son, Cristobal Aguilar, would later become mayor of Los Angeles (Chaves 1999). In 1853, the land was sold to Lewis C. Granger, a lawyer native to Ohio who came to Los Angeles only three years prior. Granger traded the Rancho in 1854, to J.D. Hunter in exchange for Hunter's home. Granger then bought 2,700 acres of Rancho San Rafael along the Los Angeles River from Verdugos. J. D. Hunter came to California from Kentucky in 1847. He was a Captain of Company B in the Iowa Volunteers, known as the Mormon Battalion. Hunter was discharged soon after he came to California and then posted at the San Luis Rey Mission after being appointed a U.S. Indian agent for Southern California. Prior to his arrival in Los Angeles, he resided in a Mormon settlement of San Bernardino until its abandonment. In Los Angeles he became a brick manufacture. Hunter owned portions of the adjacent Ranchos and sold Rancho Cañada de Los Nogales in 1882 to local developers (Vurtinus 1979).

American Period (1848–Present)

In 1848, the Treaty of Guadalupe Hidalgo, which ended the Mexican-American War (1846–1848), marks the beginning of the American period. In 1850, California became the 31st state in the American Union. In the late nineteenth century, droughts decimated the cattle industry in Southern California, which resulted in the purchase of many of the ranchos by American investors (Cleland 1941). The Los Angeles & San Pedro Railroad was completed in 1869. It was the first railway built in Southern California (Hoyt 1953; Robinson 1978).

On February 18, 1850, the County of Los Angeles was established as one of the 27 original counties in California. The City of Los Angeles grew exponentially in the late nineteenth and early twentieth century. The urban downtown sprawled outward incorporating much of the San Fernando Valley, major portions of the Los Angeles Basin, and parts of the Rancho Palos Verdes peninsula (Fogelson 1993:226–227). After World War II, when much of the Los Angeles Basin began to develop into dense residences and commercial areas for a burgeoning post-war economy. The Los Angeles basin has become a center for intensive and large-scale industry, logistics and warehousing, and petroleum development. Continued growth led to the formation of new communities and counties, including Orange County, which broke away from Los Angeles County on March 11, 1889.

3.2.2.1 Historic Overview of the Taylor Yard

The Project area is located within the northwestern portion of the historic Taylor Yard, one of several Southern Pacific Railroad yards that were situated along the Los Angeles River.

The first Southern Pacific Railroad line to Los Angeles was completed in 1876, connecting the city to San Francisco via the Glendale Narrows. The original rail alignment ran adjacent to San Fernando Road into downtown Los Angeles. The company's first passenger station, freight depot, and classification yard, known as River Station, was located at North Spring Street, north of West College Street, within present-day Chinatown (now the site of the Los Angeles State Historic Park). The classification yard could originally hold as many as 225 freight cars. It was later relocated in the early 1900s almost 2.5-miles north of River Station and then expanded in the 1910s to ten tracks totaling 21,000 feet spread across both sides of the main line. In 1914, flooding along the Los Angeles River greatly damaged the Southern Pacific train yard. Following the 1914 floods, Southern Pacific began a major overhaul of their classification yard, building a new earthen levee along the river's east bank. 900,000 yards of earth was imported onto the site to level the ground between the Pacific Fruit Facility and the main line, before adding 47,000 feet of track (Bevil and Dallas 2004).

A rapid increase in Los Angeles rail traffic after World War I motivated Southern Pacific to make a number of operational changes. In 1925, the company relocated its entire Los Angeles freight handling operations from River Station to Taylor Yard. The new classification yard was named after its previous owner, J. Hartley Taylor—an influential Los Angeles businessman and owner of the Taylor Grocery and Taylor Milling Company. Taylor had purchased the land in the 1890s, establishing a farm at the site that later included a grocery store as well as mill and grain storage facilities (Bevil and Dallas 2004).

Taylor Yard originally extended approximately 2-miles on the east bank of the Los Angeles River between Arvia Street and the present-day Glendale Freeway. The northern portion of the yard was originally occupied by approximately 15 tracks which widened out to around 20 tracks south of Division Street. There were also a number of warehouses and operation buildings located between Division Street and Elm Street, adjacent to the river. It was at Taylor Yard where Southern Pacific introduced several modern railroad infrastructure advancements, the most notable of which was the "hump-based" classification system. The system operated using small switch locomotives that shoved strings of freight cars to the top of an artificially created eight-foot-high hillock or "hump that were then allowed to roll down the opposite side to prearranged tracks. The hump at Taylor Yard was located west of Macon Street. The small switch locomotives were manned by car riders who used brake wheels to slow their descent. The cars were then rolled into a "classification bowl," where they were assembled into "consists[2]" (Bevil and Dallas 2004).

Despite the Great Depression, Southern Pacific continued to expand and improve Taylor Yard in the 1930s. The railroad constructed a new roundhouse, for maintenance and repair of the steam locomotives, and divisional shop facility. Due to the efforts to build up the levee after the 1914 flood, the site sat above the river's natural flood plain. Flooding in 1938 mostly spared the yard; however, because of the 1938 flood, the city soon embarked on one of its largest infrastructure projects, the channelization of the Los Angeles River. The riverbank to the west of Taylor Yard was subsequently reconfigured within a permanent channel and encased with concrete by the mid-1950s. The fill material used to construct the channel was placed on undeveloped portions of the north end of Taylor Yard. Following World War II, Los Angeles emerged as the West Coast's primary manufacturing center and leader of the defense and aerospace industries in the United States.

The resulting growth in local industries and transition from steam to diesel-electric rail engines spurred Southern Pacific to upgrade Taylor Yard beginning in 1949. The company expanded to twenty-five receiving tracks, upgraded the hump to include pneumatically controlled retarders, and expanded the roundhouse and engine repair facilities to maintain the newer, larger, and heavier locomotives (Bevil and Dallas 2004). Included in the 1949 modernization, the old Taylor Yard office was replaced with a new structure near Fletcher Avenue at the yard's north end, in what is now called the Bowtie section (Mullaly and Petty 2002).

Southern Pacific began to slowly phase out operations at Taylor Yard after the completion of a modern automated freight classification yard at West Colton in 1973. For 12 years, Taylor Yard was used for

[2] Consists are the total number of locomotives or rail cars that make up a train. Railroad Glossary (american-rails.com)rain Conductor HQ Accessed September 1, 2022.

engine and car repair before finally closing the yard in 1985. Southern Pacific prepared the northern portion of Taylor Yard for sale, demolishing buildings, and structures as well as remediating contaminated soil. Southern Pacific was sold to Union Pacific in 1996 in parcels for other development (Mullaly and Petty 2002). The parcel that Union Pacific sold was to Los Angeles for the Metrolink. It was this sale that launched the extensive public effort to reserve the bulk Taylor Yard for public use as a park and greenspace. A total of 40 acres of the former yard were subsequently acquired by the California Department of Parks and Recreation in December 2001.

3.3 Records Search Methods

A records search was requested from the South Central Coastal Information Center of the California Historical Resources Information System at California State University, Fullerton. The request was submitted on May 11, 2022, and the results were received on July 19, 2022. The purpose of the records search was to identify previously recorded cultural resources, if any, within the Project area and a 0.5-mile radius surrounding the Project area. The records search resulted in identification of previous investigations and site records of previously recorded resources within the Project area and the 0.5-mile search radius.

The Built Environment Resources Directory was also reviewed to identify historic-era resources listed on or determined eligible for listing on the NRHP, the CRHR, and local registers. It also included a review of resources listed as California Historical Landmarks and California Points of Historical Interest.

3.4 Records Search Results

The records search found that 22 previous cultural resources investigations have been completed within a 0.5-mile of the Project area (Table 1). The projects were conducted between 1986 and 2013; two of the surveys were conducted in the last ten years and most were conducted in between 2000 and 2010. These projects supported a variety of undertakings, including private developments, railways, roadways, telecommunications, and water or sewer, and several involved archaeological monitoring. Two of the previous investigations overlapped a portion of the Project APE; however, most of the Project area has not been previously surveyed for cultural resources.

Table 1. Previously conducted investigations

Report No.	Year	Author(S)	Title	Affiliation	Proximity To Project
LA-08252	1986	Snyder, John W., Mikesell, Stephen, and Pierzinski	Request for Determination of Eligibility for Inclusion in the National Register of Historic Places/Historic Bridges in California: concrete Arch, Suspension, Steel Girder and Steel Arch	Caltrans	Outside
LA-02156	1989	White, Robert S., and David Van Horn	A Phase I Cultural Resources Study of the 18-4-acre Proposed Etna Commercial Plaza Site, City of Los Angeles	Archaeological Associates, Ltd.	Outside
LA-02517	**1991**	**Wlodarski, Robert J.**	**A Phase 1 Archaeological Study for Eight Areas Proposed for the New Los Angeles Police Training Academy, and Driver Training Facility, City of Los Angeles County, California**	**Historical, Environmental, Archaeological, Research, Team**	**Overlaps a portion**

Report No.	Year	Author(S)	Title	Affiliation	Proximity To Project
LA-02950	1992	Anonymous	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	Peak & Associates, Inc.	Outside
LA-03647	1996	Wlodarski, Robert J.	A Phase I Archaeological Study for the Telacu Pointe Project Located at 3100 Fletcher Drive, City and County of Los Angeles, California	Historical, Environmental, Archaeological, Research, Team	Outside
LA-04046	1996	Wlodarski, Robert J.	A Phase I Archaeological Study for the Telacu Pointe Project Located 3100 Fletcher Drive, City and County of Los Angeles, California	Historical, Environmental, Archaeological, Research, Team	Outside
LA-05414	2000	Smith, Philomene C.	Negative Archaeological Survey Report: 07-la-2 Kp22.5/36.7-170-21370k	Caltrans District 7	Outside
LA-05449	2000	Unknown	Phase I Cultural Resource Investigation at Lennar Taylor Yard	Compass Rose Archaeological, Inc.	Outside
LA-05441	2001	Sylvia, Barbara	Negative Archaeological Survey Report: 07-la-134-9.8/10.9-174-21780k	Caltrans District 7	Outside
LA-06353	2001	Bonner, Wayne H.	Records Search Results for Telecommunication Facility La-	Michael Brandman Associates	Outside
LA-06466	2002	Hale, Alice E.	Archaeological Survey Report Los Angeles River Bikepath at Fletcher Drive Bridge Los Angeles, California	Greenwood and Associates	Outside
LA-06086	2003	Wlodarski, Robert J.	A Phase I Archaeological Study for Property Located at 2945-2951 Marsh Street (proposed Elysian Valley United Skate Park) City of Los Angeles, County of Los Angeles, California	Historical, Environmental, Archaeological, Research, Team	Outside
LA-06837	2003	Greenwood, Roberta S.	Cultural Resources Monitoring: Northeast Interceptor Sewer Project	Greenwood and Associates	Outside
LA-07425	2004	McMorris, Christopher	City of Los Angeles Monumental Bridges 1900-1950: Historic Context and Evaluation Guidelines	JRP Historical Consulting	Outside
LA-07901	2006	Dietler, Sara	LAUSD Glassell Park Project 06260226.01 Archaeological and Historical Phase 1 Results	EDAW	Outside
LA-08054	2006	McKenna, Jeanette A.	Results of a Phase I Cultural Resource Investigation for the Proposed Los Angeles Department of Water and Power Taylor Yard Park Water Recycling Project, Located in the Glendale and Glassell Park Areas of Los Angeles County, California	McKenna et al.	Outside
LA-08255	2006	Arrington, Cindy, and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	SWCA Environmental Consultants, Inc.	Outside
LA-09608	2008	Bonner, Wayne H., Sarah A. Williams, and Kathleen A. Crawford	Cultural Resources Records Search and Site Visit Results for T-Mobile candidate SV11418D (CA Paving & Grading), 3253 Verdugo Road, Los Angeles, Los Angeles County, California	Michael Brandman Associates	Outside

Report No.	Year	Author(S)	Title	Affiliation	Proximity To Project
LA-10638	2010	Tang, Bai "Tom"	Preliminary Historical/ Archaeological Resources Study, Southern California Regional Rail Authority (SCRRA) River Subdivision Positive Train Control Project, City of Los Angeles, Los Angeles County, California	CRM Tech	Outside
LA-10642	**2010**	**Tang, Bai "Tom"**	**Preliminary Historical/Archaeological Resources Study, Antelope Valley line Positive Train Control (PTC) Project Southern California Regional Rail Authority, Lancaster to Glendale, Los Angeles County, California**	**CRM Tech**	**Overlaps a portion**
LA-12515	2012	Zalarvis-Chase, Dimitra	Verizon Wireless Future, 1600 North San Fernando Road, Los Angeles, CA 90065	URS Corp	Outside
LA-12526	2013	Ehringer, Candace, Ramirez, Katherine, and Vader, Michael	Santa Clarita Valley Sanitation District Chloride TMDL Facilities Plan Project, Phase I Cultural Resources Assessment	ESA	Outside
Bold text and gray highlighting indicate previous projects that overlap a portion of the Project area					

The records search results found no previously recorded cultural resources within the Project area. A total of five previously documented cultural resources are within a 0.5-mile radius of the Project area (Table 2). These resources include three historic-era buildings, and two historic-era structures. None of the historic-era resources were recommended eligible for the CRHR.

Table 2. Previously recorded resources

Primary No.	Trinomial	Age and Type	Resource Description	Proximity to Project
P-19-170772	Unknown	Historic Building	Religious Building	Outside
P-19-170773	Unknown	Historic Building	Single Family Property	Outside
P-19-188007	Unknown	Historic Structure	Highway/ Trail	Outside
P-19-188088	Unknown	Historic Building	Educational Building	Outside
P-19-190897	Unknown	Historic Structure	Canal/Aqueduct; Lake/River/Reservoir	Outside

3.5 Historical Map Review

Historical USGS maps were reviewed to identify if historic-era structures or features had previously been present in the Project area. Maps from 1894, 1896, 1898, 1900, 1904, 1907, 1908, 1910, 1913, 1915, 1920, 1927, 1928, 1931, 1932, 1939, 1940, 1948, 1956, 1968, and 1975 were reviewed using the online source historicaerials.com. In addition, Sanborn maps for the City of Los Angeles from 1906 to January 1951, Volume 40, 1930 to January 1951, and 1906 to January 1951 Volume 11, 1919 to 1950 were reviewed using the ProQuest digital Sanborn Map database via the Los Angeles Public Library. The railroad is depicted on all the maps; however, the rail development was relatively minimal until 1928 at which time Taylor Yard development began to rapidly transform the landscape. No structures appear within the Project area until 1966. No structures appear in the Sanborn maps, and the parcel is only noted as being owned by the Southern Pacific Railroad.

Historical aerial photography from 1927, 1928, 1940, 1952, 1960, 1976, 1980, 1985, 1987, and 1988 were reviewed using the University of California Santa Barbara (UCSB) Library online database, “Frame Finder Air Photos.” The 3-acre portion of Taylor Yard, which makes up the Project APE, was largely undeveloped in the 1920s through 1940s, except for two sets of tracks that extended in a north-south direction outside the boundaries of the project area. By 1940, a culvert appears to cut east-west across the 3-acre project area, likely at the location of the Sycamore Wash. The Project area also appears to have been used as a fill placement area during the Los Angles river channelization. Between 1940 and 1952, the tracks were expanded eastward, but were still located outside the boundaries of the Project area. A large warehouse-type building with a flat roof was constructed on the site between 1952 and 1960 (Figure 4), which is likely the Taylor Yard office building constructed after the Yard’s 1949 modernization efforts. A surface parking lot is pictured around the building to the north, west, and south. Two paved roads with two-way traffic extended in a north-south direction immediately to the east of the building and to the west of the surface parking lot. There were also smaller ancillary buildings located to the north and south of the warehouse. The building to the north appears to have had a flat roof and the building to the south appears to have had a front gabled roof. The south ancillary building is located outside the boundaries of the project area. No alterations appear to have occurred between 1960 and 1987, after which the buildings appear to have been demolished. Aerial images suggest that the Project area was used for stockpiling and/or left vacant throughout the 1990s and 2000s.

Figure 4. 1952 historical aerial photograph (historicaerials.com, accessed December 13, 2022)

Figure 5. 1964 historical aerial photograph (UCSB, accessed August 31, 2022)

4 Field Survey

Stantec archaeologist, John Sneddon, BA, conducted an intensive pedestrian survey of the Project area under the supervision of Shannon Loftus, MA HP, RPA (Principal Investigator) and Dean Reed, MPS CHRM (Field Director). The survey was conducted on August 2, 2022. The methods and results of the survey are described below.

4.1 Survey Methods

The Project area was surveyed using systematic, parallel transects spaced 15-meters apart. The goal of survey was to identify artifacts, archaeological features (such as foundations and other historic structures), anthropogenic sediments, or other evidence of cultural remains. All areas were examined, and noted the environment, disturbances, access, and the presence or absence of cultural resources.

The Project area was converted to a background shapefile and the shapefile was uploaded to a hand-held global positioning system (GPS) unit. The GPS unit was used to verify the Project location and guide the survey. The setting and disturbances were recorded and photo-documented using a digital camera. Field notes were recorded on the Wildnote application and electronic field notes were saved to Stantec's confidential cultural resource project folder post-fieldwork. All photographs and notes are on file at Stantec's Monrovia, California office. They can also be viewed in Appendix A.

All cultural resources identified were determined to be associated with the historic Taylor Yard, thus considered to be components of a single site. Stantec competed a California DPR 523 form for the resources identified during the survey (see Appendix B).

4.2 Survey Results

The Project area is a vacant lot, characterized by broken pavement and gravel, and areas of heavy graffiti. Concentrations of palm trees, native and invasive grasses and bushes were observed to be present around the north and east margins of the Project area. The proposed soil-spoil relocation area has more vegetation concentrated near the center. An asphalt road is present along the Project area's eastern border. A dirt and gravel transmission easement are situated along the northwestern Project boundary. Modern debris is present throughout the site, primarily concentrated in the proposed soil-spoil relocation area. The debris ranges from common household trash, furniture, shopping carts, miscellaneous metals and plastics, and dilapidated k-rail barriers.

Several historic-era features and one artifact were observed within the Project area. These consist of:

1. A railroad sign with a signpost consisting of two steel posts topped by a crossbeam. The signpost is topped with a circular sign that reads "B1."
2. An I-beam structure and pole topped by a circular metal shade.
3. A building foundation consisting of three steel bars embedded in the ground forming a 15-foot square.
4. A second building foundation consisting of a 72-foot wide by 170-foot long concrete slab.
5. A third building foundation consisting of a concrete pad measuring 6.9-feet wide by 12.5-feet long.
6. A fourth building foundation consisting of a row of three steel I-beams embedded in the ground and cut off at the ground surface.
7. One isolated railroad spike.

The railroad sign, the I-beam structure, and one of the foundations (items 1 through 3 above) were identified within the project site, along its eastern boundary. The remaining foundations and the railroad spike (items 4 through 7 above) were identified within the proposed location for the shallow soil removal, up to two feet, as discussed in Section 1, during site preparation activities. These historic-era cultural resources appear to be associated with the use of the Taylor Yard, were likely constructed sometime after 1952, and were originally located adjacent to a road based on the historical aerial images. The research did not determine the specific use of the railroad sign. Only one of the foundations (item 4 above) can be linked to a specific building that existed on the lot previously: Taylor Yard office building constructed after the Yard's 1949 modernization efforts, seen in Figure 4. Due to their association with Taylor Yard, the features and artifact identified during the survey were documented under the same temporary site number, R220803-74-01. No other cultural resources were identified during the survey.

5 Summary and Recommendations

Stantec conducted a cultural resource Phase I study in support of the Project. The assessment included a records search, review of historic USGS maps, Sanborn maps, aerial imagery, and an intensive-level pedestrian survey of the 3-acre Project area.

The Phase I study revealed that the historical features of Taylor Yard remain within the APE, including building foundations, a railroad sign, and an isolated railroad spike. No other historic-era cultural resources were identified, and no prehistoric-era cultural resources were identified during the survey.

Taylor Yard has never been inventoried or evaluated for its eligibility for listing in the CRHR or NRHP. It is seemingly important to local regional history and contained several pieces of infrastructure that may have been critical to the development of the Los Angeles basin. A full investigation an evaluation of Taylor Yard would be needed to determine its historical significance. However, the newly recorded site, R220803-74-01, does not indicate a significant historical association with the yard. The components of the site do not appear to be associated with any facilities that characterized the yard's technological achievements or primary operations and merely exemplify ongoing developments within the yard during the mid-20th century. Therefore, the site does not appear eligible for listing in the NRHP under Criterion A or CRHR Criterion 1. There is no evidence that the components of the site have any important association with any person or persons who made significant contributions to history at the local, state, or national level. Therefore, the site does not appear eligible for listing in the NRHP under Criterion B or CRHR Criterion 2. The components of the site to not embody any distinctive characteristics of a type, period, or method of construction, that represent the work of a master engineer/builder. Therefore, the side does not appear eligible for listing in the NRHP under Criterion C or CRHR Criterion 3. Under NRHP Criterion D or CRHR Criterion 4, site R220803-74-01 is not significant as a source, or likely source, of important information regarding history, building materials, construction techniques, or advancements in design or engineering.

The native sediment of the general area consists of unconsolidated alluvial sediments along the Los Angeles River. The background research, historical maps, and aerial images of the Project area indicate extensive ground disturbance starting as early as 1914 and well into the 1940s. The Project area was entirely paved, and buildings had been constructed by the 1960s, and were demolished by 1988. The entire Project area is highly disturbed and has been mechanically altered several times throughout the 20th-century, which has significantly undermined the integrity of the R220803-74-01.

The built-environment remains observed on the surface and the site's history suggest potential for presence of buried historic-era features related to the Taylor Yard as no soil remediation occurred in these areas. The built-environment remains should not affect the Project in terms of construction and design planning. The surviving components of the Taylor Yard within the Project area do not appear to constitute a historical resource, as defined under CEQA (i.e., resources eligible for the CRHR), or a historic property as defined under the NHPA. Therefore, they are recommended as not eligible for listing. However, given that the construction work will significantly impact R220803-74-01, Stantec is recommending that an archaeological monitor be present during ground disturbance activities. In addition, a worker environmental awareness program (WEAP) should be developed to provide workers with training for treating known cultural resources, and potential discoveries of presently undocumented resources, within the Project area, and instruction on compliance with mitigation measures developed for the Project.

With respect to prehistoric resources, identifications during construction is unlikely given the extensive disturbance to the Project area as a result of three-quarters of a century of railroad yard development and subsequent demolition. However, Stantec recommends the lead agencies continue engagement and consultation with the interested Native American tribes given ancestral homeland connection by the Gabrielino/Tongva People.

6 References Cited

American Rails
2022 Railroad Glossary. Railroad Glossary (american-rails.com), Accessed: September 15, 2022.

Bean, Lowell J., and Charles R. Smith
1978 Gabrielino. In *Handbook of North American Indians, Volume 8, California,* pp. 538-549. Edited by R.F. Heizer. William C. Sturtevant, general editor. Smithsonian Institution, Washington DC.

Bevil, Alexander D., and Herb Dallas
2004 Taylor Yard Preliminary Cultural Evaluation. California State Parks, Southern Service Center.

Byrd, Brian F., and L. Mark Raab
2007 Prehistory of the Southern California Bight: Models for a New Millennium, in *Colonization, Culture, and Complexity: California's Chaotic Prehistory.* pp. 215-228. Altamira Press, edited by T.L. Jones and K.A. Klar.

Castillo, Edward D.
1978 The Impact of Euro-American Exploration and Settlement. In *Handbook of North American Indians, Volume 8, California,* edited by R.F. Heizer, pp. 99–127. William C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Chavez, Miroslava
1999 "Pongo Mi Demanda: Challenging Patriarchy in Mexican Los Angeles, 1830-1850," In *Over the Edge: Remapping the American West.* Valerie J. Matsumoto and Blake Allmendinger (ed.). University of California Press.

Cleland, Robert G.
1941 *The Cattle on a Thousand Hills: Southern California, 1850–1870*. Huntington Library, San Marino, California.

Critelli, S. P. Rumelhart, and R. Ingersoll.
1995 Petrofacies and provenance of the Puente Formation (middle to upper Miocene), Los Angeles Basin, southern California: implications for rapid uplift and accumulation rates. *Journal of Sedimentary Research* A65: 656-667.

Dibblee, T.W., and H. Ehrenspeck
1989 *Geologic map of the Los Angeles quadrangle, Los Angeles County, California*. Dibblee Geological Foundation, Dibblee Foundation Map DF-22. Scale 1:24,000

Erlandson, Jon M.
1994 *Early Hunter-Gatherers of the California Coast.* Plenum Press, New York.

Fogelson, Robert M.
1993 *The Fragmented metropolis, Los Angeles, 1850-1930.* University of California Press, Berkley.

Geotek, Inc.
2021 *Preliminary Geotechnical Evaluation Bowtie Wetland Park Improvements South of the Casitas Avenue Cul-De-Sac Los Angeles, Los Angeles County, California*. Report prepared for Bluegreen Consulting. 49 pp.

Gudde, E. G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. Revised from first edition, 1949. University of California Press, Berkeley.

Hackel, Steven W.
2013 *Junipero Serra: California's Founding Father*. New York: Hill and Wang Press.

Heizer, R. F.
1978 Handbook of North American Indians, Vol. 8: California. Washington, DC: Smithsonian Institution.

Historic Aerials
2022 General Search for "2850 Kerr St. Los Angeles, CA." Topographic maps from 1894, 1896, 1898, 1900, 1904, 1907, 1908, 1910, 1913, 1915, 1920, 1927, 1928, 1931, 1932, 1939, 1940, 1948, 1956, 1968, and 1975. Historic Aerials, by Netronline. Accessed August 2022. Historic Aerials: Viewer

Hoffman, Ogden
1862 *Reports of Land Cases Determined in the United States District Court for the Northern District of California,* Numa Hubert, San Francisco.

Hoyt, Franklyn
1953 The Los Angeles and San Pedro: The First Railroad South of the Tehachapis. In *California Historical Quarterly*. Vol 32 (4). December 1953. pp. 327-348. University of California Press in association with the California Historical Society.

Ingersoll, R. V., and P. E. Rumelhart
1999 Three-stage basin evolution of the Los Angeles basin, southern California. *Geology* 27: 593-596.

Jones, Mark A.
2018 "The Quilting of a Frontier Border City: Identify Development and Expression in the Early San Diego Borderlands, 1848-1868." MA Thesis, San Diego State University, 2018: 69-72.

Linton, Joe
2005 *Down by the Los Angeles River: Friends of the Los Angeles Rivers Official guide.* Wilderness Press.

McCawley, William
1996 *The First Angelinos: The Gabrielino Indians of Los Angeles.* M. Alki. Museum Press, Morongo Indian Reservation, Banning, California.

Meigs, A. and M. Cooke

2003 Constraining Blind Thrust Fault Topology with Elastic Models of Topography and Deformed Geologic Markers. *SCEC 2003 Research Annual Report of Research*.

Miller, Bruce W.
1991 *The Gabrielino.* Sand Reiver Press, Los Osos, California.

Mullaly, Larry, and Bruce Petty
2002 *The Southern Pacific in Los Angeles, 1873-1996*. San Marino CA: Golden West Books.

ProQuest
2022 Digital Sanborn Maps. "Los Angeles 1906-Jan. 1951 vol. 11, 1919-Sept. 1950. ProQuest Digital Sanborn Maps ~ Map of Los Angeles 1906-Jan. 1951 vol. 11, 1919-Sept. 1950, Sheet 1181 (lapl.org). Accessed January 12, 2023.

2022 Digital Sanborn Maps. "Los Angeles 1906-Jan. 1951 vol 40, 1930-Jan. 1951. Sheets 4027, 4028, 4029, and 4080. ProQuest Digital Sanborn Maps ~ Map of Los Angeles 1906-Jan. 1951 vol. 40, 1930-Jan. 1951, Sheet 0c (lapl.org). Accessed January 12, 2023.

Robinson, W. W.
1948 *Land in California: The Story of Mission Lands, Ranchos, Squatters, Mining Claims, Railroad Grants, Land Scrip, Homesteads*. University of California Press, Berkeley.

Robinson, John W.
1978 *Southern California's First Railroad*. Los Angeles, CA: Dawson's Book Shop.

Sandos, James A.
2004 *Converting California: Indians and Franciscans in the Missions*. New Haven: Yale University Press.

Shipley, William F.
1978 Native Languages of California. In California, edited by Robert F. Heizer, pp.80-90. Handbook of North American Indians, Volume 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Starr, Kevin
2015 *California: A History.* The Modern Library, New York.

The River Project
2015. Native Plants of the LA River Watershed. June 23, 2015. Accessed online via New tab (archive.org). August 16, 2022.

Tongva People
N.D. Tongva People: A dynamic study of the Villages and Locations of the Gabrielino-Tongva Indians. Accessed online via https://www.tongvapeople.org/?page_id=696 January 16, 2023
Tureutlein, Theodore E.
1968 The Portola Expedition of 1769-1770. *California Historical Society Quarterly* 47(4): 291.

University of California Santa Barbara (UCSB)

2022 “FrameFinder Aerial Photos,” Historic aerial photographs 1927, 1928, 1940, 1952, 1960, 1976, 1980, 1985, 1987, and 1988. UCSB Library, Special Research Collections, University of California Santa Barbara. Accessed August 31, 2022. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/

Vurtinus, John F.
1979 “The Mormon volunteers: The Recruitment and Service of a Unique Military Company,” In: *The Journal of San Diego History, Summer 1979, 25 (3).*

Wallace, W. J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwest Journal of Anthropology* 11(3): 214-230.

Warren, C.N.
1968 Cultural Traditions and Ecological Adaptation on the Southern California Coast in Archaic Prehistory in the Western United States. Edited by Cynthia Irwin-Williams. *Eastern New Mexico, University Contributions in Anthropology* 1(3):1-14.

Weber, David J.
2009 *The Spanish Frontier in north America: The Brief Edition*. New Haven, CT: Yale University Press.

Yerkes, R.F., Campbell, R.H., Alvarez, Rachel, and Bovard, Kelly
2005 *Preliminary geologic map of the Los Angeles 30' X 60' quadrangle, southern California*. U.S. Geological Survey, Open-File Report OF-2005-1019. Scale 1:100,000.

Yerkes, R. F., T. H. McCulloh, J. E. Schollhamer, and J. G. Vedder
1965 *Geology of the Los Angeles Basin – an introduction*. Geological Survey Professional Paper 420-A.

APPENDICES

Appendix A
Photographs

Project area overview, from the northeast corner; view southeast.

Project area overview, from the southeast corner; view northwest.

Project area overview, from the eastern boundary; view west.

Appendix B (Confidential)
DPR 523 Site Forms

APPENDIX D PALEONTOLOGICAL RESOURCE ASSESSMENT

Final Paleontological Resource Assessment for The Nature Conservancy Bowtie Demonstration Project, Los Angeles, California

Results of an Analysis of Existing Data

September 26, 2022

Prepared for:

The Nature Conservancy
445 South Figueroa Street, Suite 1950
Los Angeles, CA 90071

Prepared by:

Alyssa Bell, Ph.D.
Principal Paleontologist

Stantec Consulting Services Inc.
300 North Lake Avenue, Suite 400
Pasadena, California 91101

Stantec Project Number 184031605

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Prepared by Alyssa Bell ______________________
(signature)
Alyssa Bell, Ph.D.; Principal Paleontologist

Reviewed by ______________________
(signature)
Geraldine Aron, M.S.; Business Center Practice Lead

Approved by Michael P. Weber ______________________
(signature)
Michael Weber, Senior Principal Scientist

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Executive Summary

Stantec Consulting Services Inc. (Stantec) conducted a paleontological resources assessment on behalf of The Nature Conservancy for the Bowtie Demonstration Project (the Project) on portions of an approximately 2.5 acres of land in the City of Los Angeles, California. This paleontological study was conducted in support of The Nature Conservancy for the proposed habitat enhancement and stormwater treatment improvements.

The proposed Project is subject to compliance with the California Environmental Quality Act (CEQA) and City of Los Angeles requirements regarding the Project's potential impacts on paleontological resources. As part of this compliance, a paleontological resources assessment was conducted to assess potential impacts of the proposed Project on paleontological resources.

This paleontological resource investigation consisted of a museum records search from the Natural History Museum of Los Angeles County of the Project area and vicinity, as well as a review of the results of geotechnical studies conducted on the site (Geotek 2021, Converse Consultants 2022), the most recent geologic mapping, and relevant scientific literature. This research was used to assign paleontological potential rankings of the Society of Vertebrate Paleontology (2010) to the geologic units present in the Project area, either at the surface or in the subsurface. The results of this assessment indicate that the surface of the Project area consists of alluvial fan sediments with low-to-high paleontological potential, increasing with depth, likely underlain by the Puente Formation, with high paleontological potential, at an undetermined depth.

Currently available Project plans do not include complete specifications for depth or type of ground disturbance but do include stormwater vaults buried at depths of up to 33 feet below grade. Ground disturbance that occurs into geologic units with high paleontological potential may encounter paleontological resources. While the exact depth of high potential sediments in the subsurface is undetermined, given the depths of other fossil localities in the area, depths of 10 feet below ground surface is reasonable for the transition from low to high potential sediments. In order to avoid impacts to paleontological resources, Stantec recommends the following mitigation activities for the Project:

1. A paleontologist meeting professional standards of the Society of Vertebrate Paleontology (2010) shall be retained as the project paleontologist to oversee all aspects of paleontological mitigation, including the development and implementation of a Paleontological Monitoring and Mitigation Plan (PMMP) tailored to the Project plans that provides for paleontological monitoring of earthwork and ground disturbing activities into undisturbed geologic units with high paleontological potential to be conducted by a paleontological monitor meeting industry standards (Murphey et al. 2019). The PMMP should also include provisions for a Workers' Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of paleontological resources during construction, to be delivered by the paleontological

monitor to the construction crew prior to the onset of ground disturbance. As the Project is on California State Parks lands, a permit will be required from State Parks for this work.

2. Paleontological monitoring will be conducted by a qualified paleontological monitor for ground disturbance that exceeds 10 feet in depth across the Project area. The project paleontologist may reduce the frequency of monitoring should subsurface conditions indicate low paleontological potential.

3. Should a potential paleontological resource be identified in the Project area, whether by the monitor or a member of the construction crew, work should halt in a safe radius around the find (usually 50 feet) until the project paleontologist can assess the find and, if significant, salvage the fossil for laboratory preparation and curation at the Natural History Museum of Los Angeles County.

Based on the findings in this study and the implementation of the above mitigation activities, the proposed Project would not adversely impact paleontological resources. Therefore, no additional paleontological resource studies are recommended or required at this time. Changes to the Project location or plans from those assessed in this study will require additional assessment for impacts to paleontological resources.

Abbreviations

bgs	Below ground surface
CEQA	California Environmental Quality Act
City	City of Los Angeles
LACM	Natural History Museum of Los Angeles County
Project	Bowtie Demonstration Project
SVP	Society of Vertebrate Paleontology

Glossary

Paleontological Monitor	A person meeting or exceeding the following qualifications: B.S. or B.A. degree in geology or paleontology and one year of experience monitoring in the state or geologic province of the specific project. An associate degree and/or demonstrated experience showing ability to recognize fossils in a biostratigraphic context and recover vertebrate fossils in the field may be substituted for a degree.
Paleontological Monitoring	Full-time observation of construction activities in high potential geologic units by a paleontological monitor, under supervision of the project paleontologist.
Paleontological Resource	Any evidence of ancient life. This includes the remains of the body of an organism, such as bones, skin impressions, shell, or leaves, as well as traces of an organism’s activity, such as footprints or burrows, called trace fossils, and relevant associated geologic data. Also referred to as fossils.
Project Paleontologist	An individual who is recognized in the paleontological community as a professional and can demonstrate familiarity and proficiency with paleontology in a stratigraphic context, including fossil identification and recovery, with the equivalent of the following qualifications: a graduate degree in paleontology or geology, and/or a publication record in peer reviewed journals; demonstrated competence in field techniques, preparation, identification, curation, and reporting in the state or geologic province in which the project occurs; at least two full years professional experience as assistant to a Project Paleontologist with administration and project management experience; experience collecting vertebrate fossils in the field.
Spot check	A short inspection of excavations and subsurface conditions conducted by the paleontological monitor in order to confirm excavations are impacting low potential geologic units.

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) conducted a paleontological resources assessment on behalf of the Nature Conservancy for the Bowtie Demonstration Project (the Project) on portions of an approximately 2.5 acres of land in the City of Los Angeles, California. This paleontological study was conducted in support of the Nature Conservancy for the proposed habitat enhancement and stormwater treatment improvements.

The proposed Project is subject to compliance with the California Environmental Quality Act (CEQA) and the City of Los Angeles (the City) requirements regarding the Project's potential impacts on paleontological resources. As part of this compliance, a paleontological resources assessment was conducted to assess potential impacts of the proposed Project on paleontological resources.

1.1 PROJECT DESCRIPTION

Led by The Nature Conservancy in partnership with California State Parks, the Project will capture stormwater and enhance habitat. The Project is a 2.5-acre stormwater demonstration project located on the California State Parks 18-acre “Bowtie” Parcel along the Glendale Narrows stretch of the Los Angeles River in the City (Figure 1). The project will be treating dry weather stormwater runoff from a 2,775-acre drainage area that encompasses the City of Los Angeles, Glendale, and Pasadena. The Project includes a diversion structure from the Los Angeles County Flood Control District’s storm drain, stormwater vaults, pre-treatment units, a utility shed, and a constructed wetland. Stormwater vaults will all be located within a centralized area on the north-northwest portion of the site. Although the design of vaults is not yet complete, the vaults are anticipated to have lengths and widths of about 10 to 12 feet and will be founded at depths ranging from about 20 to 33 feet below grade. In addition, some surficial landscaping and hardscaping are proposed on the subject site. Wetland excavations are planned to be approximately 7 feet below grade, with an estimated 85,000 square foot area for basin construction. Treated flows will outfall into the County storm drain and into the Los Angeles River.

1.2 PROJECT LOCATION

The proposed Project is located at in the City of Los Angeles, California, bound by the Los Angeles River on the west and the Southern Pacific Railroad on the east, between the communities of Glassell Park and Elysian Valley, approximately 0.5 miles northeast of the Interstate 5 and Glendale Freeway intersection (Figure 1). The Project area is located on Los Angeles County Assessor Parcel Numbers 5442-002-914 and 5442-002-825. Specifically, the Project area is located in portions of Section 4, Township 1 South, Range 13 West, as depicted on the Los Angeles, California USGS 7.5-minute series topographic quadrangle, on lands owned by California State Parks.

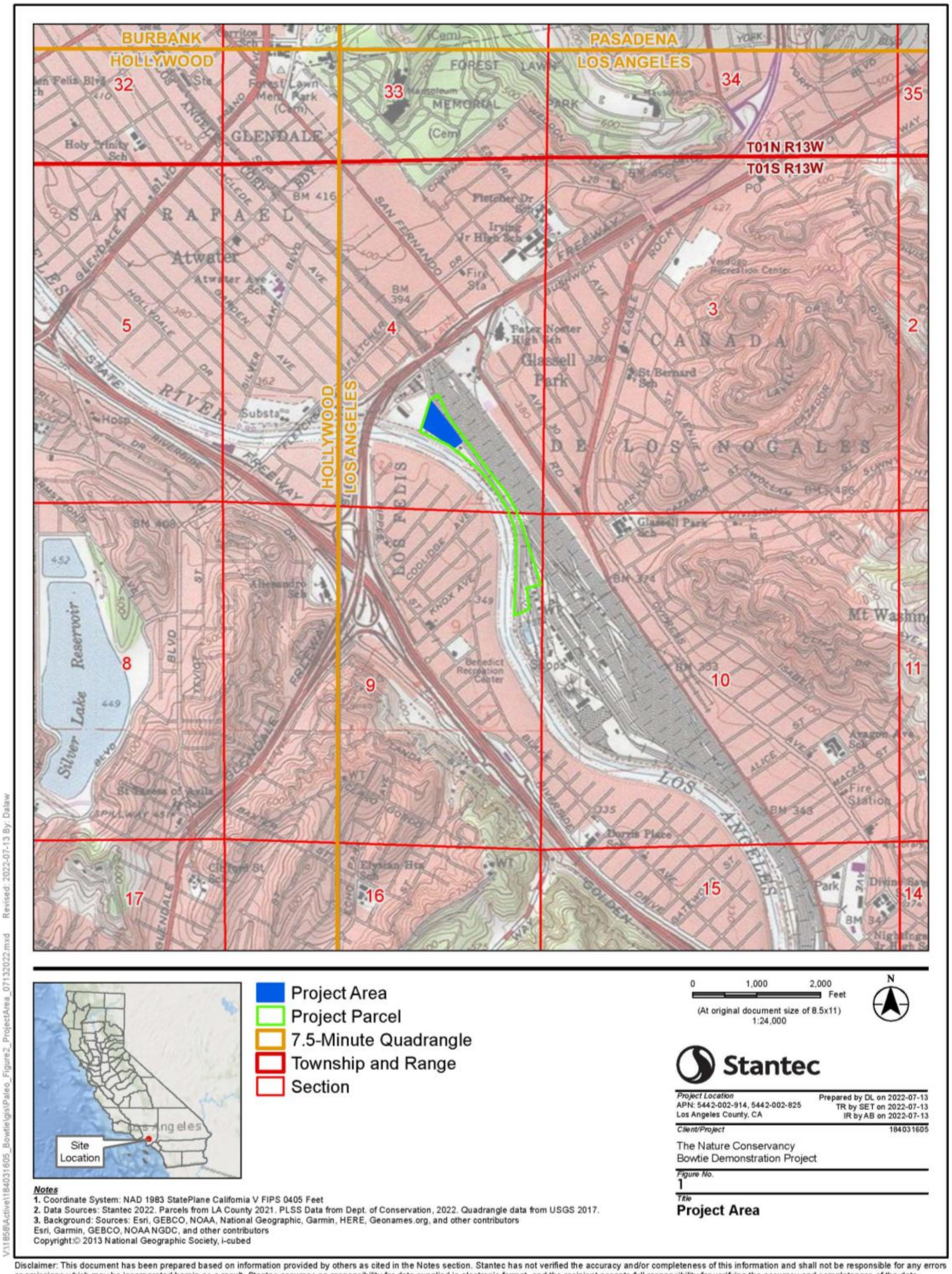

Figure 1. Project area

1.3 PALEONTOLOGICAL RESOURCES

Paleontological resources, or fossils, are any evidence of ancient life. This includes the remains of the body of an organism, such as bones, skin impressions, shell, or leaves, as well as traces of an organism's activity, such as footprints or burrows, called trace fossils. In addition to the fossils themselves, geologic context is an important component of paleontological resources, and includes the stratigraphic placement of the fossil as well as the lithology of the rock in order to assess paleoecologic setting, depositional environment, and taphonomy. Fossils are protected by federal, state, and local regulations as nonrenewable natural resources.

While CEQA does not define a significance threshold for paleontological resources, the standards of the Society of Vertebrate Paleontology (SVP) are often used in the absence of a legal definition of significance. The SVP defines significant paleontological resources as:

> identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i. e., older than about 5,000 radiocarbon years). [SVP 2010: 11].

It should be noted that the threshold for significance varies with a variety of factors, including geologic unit, geographic area, and the current state of scientific research, and may also vary between different agencies (Murphey et al. 2019). Numerous paleontological studies have developed criteria for the assessment of significance for fossil discoveries (e.g., Eisentraut and Cooper 2002, Murphey et al. 2019, Murphey and Daitch 2007, Scott and Springer 2003). In general, these studies assess fossils as significant if one or more of the following criteria apply:

- The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events, through biochronology or biostratigraphy and the correlation with isotopic dating.
- The fossils provide ecological data, such as the development of biological communities, the interaction between paleobotanical and paleozoological biotas, or the biogeography of lineages.
- The fossils demonstrate unusual or spectacular circumstances in the history of life.
- The fossils provide information on the preservational pathways of paleontological resources, including taphonomy, diagenesis, or preservational biases in the fossil record.

- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
- The fossils inform our understanding of anthropogenic affects to global environments or climate.

A geologic unit known to contain significant paleontological resources is considered sensitive to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either disturb or destroy fossil remains directly or indirectly. This definition of sensitivity differs fundamentally from the definition for archaeological resources as follows:

> It is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units. The boundaries of archaeological sites define the areal extent of the resource. Paleontological sites, however, indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case. [SVP 2010: 2].

Many archaeological sites contain features that are visually detectable on the surface. In contrast, fossils are often contained within surficial sediments or bedrock and are therefore not observable or detectable unless exposed by erosion or human activity.

In summary, in the absence of observable fossil resources on the surface, paleontologists must assess the potential of geologic units as a whole to yield paleontological resources based on their known potential to produce significant fossils elsewhere. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken to prevent adverse impacts to these resources.

2.0 REGULATORY FRAMEWORK

California and the City have enacted multiple laws and regulations that provide for the protection of paleontological resources. This investigation was conducted to meet these requirements regarding paleontological resources on the lands proposed for development.

2.1 STATE OF CALIFORNIA

2.1.1 California Environmental Quality Act

CEQA (Public Resources Code Sections 21000 et seq) requires that before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects. As updated in 2016, CEQA separates the consideration of paleontological resources from cultural resources (Public Resources Code Section 21083.09). The Appendix G checklist (Title 14, Division 6, Chapter 3, California Code of Regulations [CCR] 15000 et seq.) requires an answer to the question, “Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” Under these requirements, Stantec has conducted a paleontological resources assessment to determine impacts of the proposed project on paleontological resources within the Project area.

2.1.2 Public Resources Code

The California Public Resources Code (PRC) (Chapter 1.7, Sections 5097 and 30244) includes additional state-level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological sites or features from state lands as a misdemeanor, and prohibit the removal of any paleontological site or feature from state land without permission of the applicable jurisdictional agency.

2.2 LOCAL REGULATIONS

2.2.1 City of Los Angeles

The Conservation Element of the City of Los Angeles General Plan recognizes paleontological resources in Section 3: “Archeological and Paleontological” (II-3), specifically the La Brea Tar Pits, and identifies protection of paleontological resources as an objective (II-5). The General Plan identifies site protection as important, stating, “Pursuant to CEQA, if a land development project is within a potentially significant paleontological area, the developer is required to contact a bona fide paleontologist to arrange for assessment of the potential impact and mitigation of potential disruption of or damage to the site. If significant paleontological resources are uncovered during project execution, authorities are to be notified and the designated paleontologist may order excavations stopped, within reasonable time limits, to enable assessment, removal or protection of the resources” (City of Los Angeles 2001).

While the Project is on California State Parks land, they do not have codified significance guidelines for paleontological resources under CEQA. Therefore, Stantec is applying guidance from the City of Los Angeles’ CEQA Thresholds Guide (City of Los Angeles 2006) or this Project. Section D:1 specifies that the determination of significance for paleontological resources shall be made on a case-by-case basis, taking into consideration the following factors:

- Whether, or the degree to which, the project might result in the permanent loss of, or loss of access to, a paleontological resource; and
- Whether the paleontological resource is of regional or statewide significance. [City of Los Angeles 2006].

3.0 PROFESSIONAL STANDARDS

The Society of Vertebrate Paleontology (SVP) (2010), the Bureau of Land Management (2016) and a number of scientific studies (Eisentraut and Cooper 2002; Murphey et al. 2019; Scott and Springer 2003) have developed guidelines for professional qualifications, conducting paleontological assessments, and developing mitigation measures for the protection of paleontological resources. These guidelines are broadly similar, and include the use of museum records searches, scientific literature reviews, and, in some cases, field surveys to assess the potential of an area to preserve paleontological resources. Should that potential be high, accepted mitigation measures include paleontological monitoring, data recordation of all fossils encountered, collection and curation of significant fossils and associated data, and in some cases screening of sediment for microfossils.

This study has been conducted in accordance with these guidelines and the recommendations provided herein meet these standards.

4.0 GEOLOGIC SETTING

The Project area is located in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges geomorphic province and just to the south of the Transverse Ranges geomorphic province (Ingersoll and Rumelhart 1999). The Los Angeles Basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 to 3 million years ago (Ma) (Critelli et al. 1995). While sediments dating back to the Cretaceous (66 Ma) are preserved in the basin, continuous sedimentation began in the middle Miocene (around 13 Ma) (Yerkes et al. 1965). Since that time, sediments have been eroding into the basin from the surrounding highlands, resulting in thousands of feet of accumulation (Yerkes et al. 1965). Most of these sediments are marine, until sea level dropped in the Pleistocene and deposition of the terrestrial alluvial sediments that compose the uppermost units in the Los Angeles Basin began.

The Los Angeles Basin is subdivided into four structural blocks, with the Project area occurring in the Central Block, where sediments range from 32,000 to 35,000 feet thick (Yerkes et al. 1965). The Central Block is wedge-shaped, extending from the Santa Monica Mountains in the northwest, where it is about 10 miles wide, to the San Joaquin Hills to the southeast, where it widens to around 20 miles across (Yerkes et al. 1965).

5.0 METHODOLOGY

The paleontological resource assessment reported herein consisted of a records search from the Natural History Museum of Los Angeles County (LACM) as well as a review of the relevant scientific literature and the most recent geologic mapping. To assess if paleontological resources are likely to be encountered in any given area, the paleontological potential of the geologic units present in the area is assessed. Paleontological potential of a geologic unit consists of both (a) the potential for yielding abundant vertebrate fossils or for yielding significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data (SVP 2010). Unlike archaeological resources that often have a limited aerial extent, paleontological resources may occur throughout a geologic unit, and so paleontological potential is assessed for the unit as a whole. Provided below is the methodology used during the current study to assess the potential of the Project to impact paleontological resources.

The paleontological assessment presented here was conducted by Stantec Principal Paleontologist Alyssa Bell, Ph.D. GIS maps and figures were drafted by GIS technician Danny Law, B.S. This report was authored by Alyssa Bell and peer reviewed by Business Center Practice Leader Geraldine Aron, M.S. Senior Principal Scientist Michael Weber coordinated all work and provided quality assurance and control of this report.

5.1 RECORDS SEARCH

A records search of the Project area and vicinity was requested from the LACM on May 28, 2022, with the results received on May 29, 2022. The search returned the closest known paleontological localities of the LACM to the Project area from geologic units that are present at the Project area, either at the surface or in the subsurface.

5.2 SCIENTIFIC LITERATURE REVIEW

In order to assess the paleontological potential of the Project area, the most recent geologic mapping was consulted to identify all geologic units present at the surface or likely present in the subsurface. The scientific literature was then consulted to determine the history of each of these units for preserving fossil resources.

5.3 GEOTECHNICAL ASSESSMENT

Geotechnical assessments were conducted of the Project area by Geotek (2021) and Converse Consultants (2022). Geotek's (2021) work consisted of two exploratory borings with a hollow-stem auger to a maximum depth of approximately 51 feet below ground surface (bgs). Converse Consultants (2022) work consisted of six cone penetration test soundings. The results of these studies were incorporated into this assessment to evaluate the subsurface geologic conditions in the Project area and the likelihood of the Project's activities encountering geologic units with high paleontological potential.

5.4 PALEONTOLOGICAL RESOURCES ASSESSMENT

The results of the museum records search and the scientific literature review were used to assign the paleontological potential rankings of the SVP (2010) to the geologic units present in the Project area. These rankings are designed to inform the development of appropriate mitigation measures for the protection of paleontological resources and are widely accepted as industry standards in paleontological mitigation (Murphey et al. 2019; Scott and Springer 2003). These rankings are as follows:

High Potential. Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations that are temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.), some volcaniclastic formations (e. g., ashes or tephras), and some low-grade metamorphic rocks.

Undetermined Potential. Rock units for which little information is available in the literature or museum records concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study and field work is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.

Low Potential. Rock units that are poorly represented by fossil specimens in institutional collections or based on general scientific consensus, only preserve fossils in rare circumstances (e. g., basalt flows or Recent colluvium) have low paleontological potential.

No Potential. Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites).

5.5 PALEONTOLOGICAL RESOURCES IMPACTS ASSESSMENT

Impacts to paleontological resources can be classified as direct, indirect, or cumulative. Impacts can also be considered as adverse impacts or as positive impacts. Direct adverse impacts on paleontological resources are the result of damage or destruction of these nonrenewable resources by surface disturbing actions including construction excavations. Therefore, in areas that contain paleontologically sensitive geologic units, ground disturbance has the potential to adversely impact paleontological resources, by damaging or destroying them and rendering them permanently unavailable to science and society. Positive direct impacts, however, may result when paleontological resources are identified during construction and the appropriately documented and salvaged, thus ensuring the specimens are protected for future study and education.

Indirect adverse impacts typically include those effects which result from the continuing implementation of management decisions and resulting activities, including normal ongoing operations of facilities constructed within a given Project area. They also occur as the result of the construction of new roads and trails in areas that were previously less accessible. This increases public access and therefore increases the likelihood of the loss of paleontological resources through vandalism and unlawful collecting, thus constituting an adverse indirect impact. Human activities that increase erosion also cause indirect impacts to surface and subsurface fossils as the result of exposure, transport, weathering, and reburial.

Cumulative adverse impacts can result from incrementally minor but collectively significant actions taking place over time. The incremental loss of paleontological resources over time from construction-related surface disturbance or vandalism and unlawful collection would represent a significant cumulative adverse impact, because it would result in the destruction of non-renewable paleontological resources and the associated irretrievable loss of scientific information.

Positive impacts can result from the preservation of significant paleontological resources identified during construction, a direct impact, or following Project activities, an indirect impact. By successfully identifying, salvaging, and curating significant paleontological resources in a federally accredited repository, they are preserved in perpetuity and may contribute to scientific understanding and public education and awareness.

The impact assessment conducted here takes into consideration all planned project activities in terms of aerial and subsurface extents, including the possibility of subsurface geologic units having a different paleontological potential than surficial units. For example, younger surficial sediments (alluvium, lacustrine, eolian, etc.) have low potential to preserve fossil resources due to their age; yet sediments increase in age with depth and so these surficial deposits often overly older units that have high paleontological potential. In areas with this underlying geologic setting surficial work may be of low risk for impacting paleontological resources while activities that require excavations below the depth of the surficial deposits would be at greater risk of impacting paleontological resources. For this reason, the impact assessment takes into consideration both the surface and subsurface geology and is tailored to Project activities.

6.0 RESULTS

The results of the paleontological potential and impacts assessments are described below, with the results of the records search from the LACM summarized in Table 1 and the summary of the geology of the Project area in Table 2.

6.1 PROJECT AREA GEOLOGY AND PALEONTOLOGY

The geotechnical studies found the surface of the Project area to be disturbed, with a mix of alluvium and artificial fill (Geotek 2021, Converse Consultants 2022). Geologic mapping by Yerkes and Campbell (2005) indicates the Project area consists of alluvial fan deposits, with older alluvial deposits and the Puente Formation likely present in the subsurface (Figure 2). These geologic units range in age from the Recent to the late Miocene and are described below.

Artificial Fill. The geotechnical studies found a layer of artificial fill up to 6 feet thick underlying the Project area (Converse Consultants 2022). Artificial fill consisted of silty sand and was interpreted to include debris and rubble (Geotek 2021, Converse Consultants 2022). As artificial fill has been extensively disturbed and deposited by human activity, it does not include geologic context and is unlikely to preserve significant fossils. Therefore, it is assessed as having low paleontological potential.

Alluvial fan deposits (Qf in Figure 2). Alluvial fan deposits are mapped across the surface of the Project area. These sediments consist of varying proportions of unconsolidated cobbles, gravel, sand, and clay on active and recently active alluvial fans (Yerkes et al. 2005), identified by Geotek (2021) as predominantly silty sand, sand, and sandy clay with varying proportions of gravel. Alluvial sediments represent terrestrial deposition of water-transported sediments from the surrounding highlands. These sediments are relatively young in age, dating from the Holocene to the Recent, and likely overlie older alluvial sediments that date to the Pleistocene. One of the geotechnical studies identified alluvium to the total depth of the borings, 51 feet bgs, but was unable to differentiate younger versus older alluvium (Geotek 2021).

As defined by the SVP (2010), paleontological resources must be over 5,000 years in age, corresponding to the middle part of the Holocene. Therefore, the alluvial sediments near the surface in the Project area are too young at the surface to preserve fossils. However, as sediments increase in age with depth, the subsurficial sediments in the Project area may date to the early Holocene or late Pleistocene, and therefore be of an age to preserve paleontological resources.

The locality search from the LACM indicates there are several fossil localities known to the LACM in the vicinity of the Project area from older alluvial sediments similar to those that are likely present in the subsurface of the Project area at an undetermined depth. The closest of these is from Highland Park, approximately 1.5 miles from the Project area where mammoth and bison fossils were found from 14 feet bgs (LACM 2022). Another locality is known from near downtown Los Angeles, where fossils from a variety of animals, including a sabertooth cat, were recovered during storm drain excavations (LACM 2022).

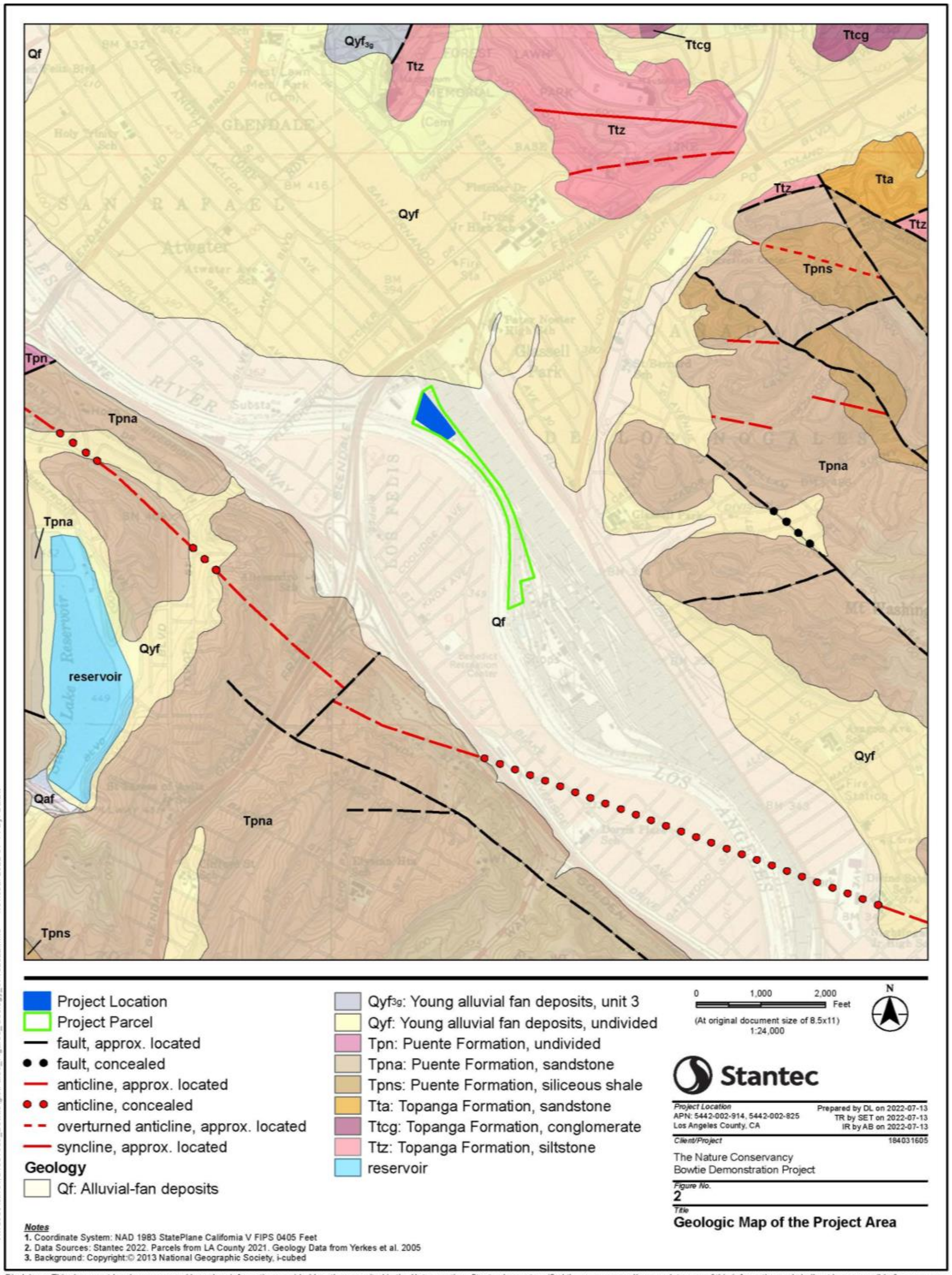

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Figure 2. Geologic map of Project area

Additionally, a review of the scientific literature indicates that older alluvial sediments are well known for the preservation of fossils representing a rich Ice Age fauna in the Los Angeles Basin and vicinity. These include animals still found in North America today, such as deer, bison, sheep, and horses; creatures no longer found in North America, such as camels, lions, cheetahs, and sloths; and extinct creatures such as mammoths, dire wolves, and saber-toothed cats (Jefferson 1991 a and b, Graham and Lundelius 1994, McDonald and Jefferson 2008, Miller 1971, Reynolds and Reynolds 1991). In addition to these iconic large animals, a wide variety of small animals can be preserved, including reptiles such as frogs, salamanders, snakes (Hudson and Brattstrom 1977), and birds (Collins et al. 2018, Jones et al. 2008, Miller 1941). These fossils are important for recreating the history of Southern California, in particular studying climate change (e.g., Roy et al. 1996), extinction (e.g., Barnosky et al. 2004, Jones et al. 2008, Sandom et al. 2014, Scott 2010), and paleoecology (e.g., Connin et al. 1998, Trayler et al. 2015).

Given the extensive record of significant fossils recovered from the older layers of surficial sediments, the alluvial fan deposits in the Project area has low-to-high paleontological potential, increasing with depth. The exact depth at which this transition occurs cannot be determined precisely in the Project area; however, the records of the LACM and reports in the scientific literature (i.e., Jefferson 1991a and 1991b, Reynold and Reynolds 1991) indicate depths of as little as 10 feet to 15 feet bgs may yield paleontological resources.

Puente Formation (Tpna, Tpns, Tpn in Figure 2). The Puente Formation is not mapped at the surface within the Project area, but three different facies are mapped at the surface to the south and northeast of the Project area (Figure 3). Therefore, this unit is likely present in the subsurface underlying the alluvial fan deposits at depths greater than tested during the geotechnical study (51 feet bgs). The Puente Formation consists of marine sandstone (Tpna in Figure 2) and siltstone (Tpns in Figure 2) that records the deposition of submarine fans at bathyal depths during the early Pliocene and Miocene (Critelli et al. 1995). The member is highly variable laterally, with thick-bedded to massive medium- and coarse-gained sandstone, thin-bedded and poorly bedded siliceous siltstone, and lenses of massive conglomerate (Morton and Miller 2006).

The Puente Formation has an extensive record of fossil preservation across Southern California. The nearest locality known to the LACM is approximately 3.6 miles southwest of the Project area, where a variety of fish and invertebrates were collected (LACM 2022). In addition to this locality, the Puente Formation has been well-documented as preserving a wide range of significant fossils, such as cephalopods (Saul and Stadum 2005), crustaceans (Feldmann 2003), fishes (Carnevale et al. 2008, Huddleston and Takeuchi 2006), and other marine and terrestrial vertebrates (Barboza et al. 2017, Leatham and North 2017). One particularly interesting site has been published from which a possible mass death assemblage of decapod crustaceans was collected along with land plants, bivalves, fish, and marine mammals as a result of mitigation activities at the Corona Country Club Estates in the city of Corona, California (Feldman 2003). Given the extensive record of fossil preservation in the Puente Formation, it is assessed here as having high paleontological potential.

Table 1 Summary of the records search from the LACM

Locality Number	Geologic Unit	Age	Taxa	Approximate Location	Depth
LACM VP CIT342	Unnamed formation	Pleistocene	Mammoth (*Mammuthus*), Bison (*Bison*)	Highland Park, approximately 1.8 miles from the Project area	14 feet bgs
LACM VP 1023	Unnamed formation	Pleistocene	Sabertooth cat (*Smilodon*), horse (*Equus*), deer (*Odocoileus*), turkey (*Meleagris*)	Workman and Alhambra Streets; approximately 3.6 miles from the Project area	Unknown (excavations for storm drain)
LACM VP 6946 to LACM VP 6948, LACM VP 3250	Puente Formation	Pliocene to Miocene	Herring (*Xyne, Ganolytes*), smelt (*Bathylagus*), bristlemouth (*Cyclothone*), lanternfish (Myctophidae), drum family (Sciaenidae), mackerel/tuna/bonito family (Scombridae), croaker (*Genyonemus*), viperfish (*Chauliodus*), porgies (*Plectrites*), bonito (Sarda), drumfish (Lompoquia), perch-like fish (*Thyrsocles*), jack (*Decapterus*), rock bass (*Paralabrax*), argentine (*Argentina*); invertebrates	Vermont Avenue and Beverly Boulevard; approximately 3.5 miles from the Project area	60 to 80 feet bgs

Table 2 Paleontological potential of geologic units within the Project area

Geologic Unit	Age	Occurrence within Project area	Paleontological Potential*
Artificial fill	Recent	Surface and up to 4 feet bgs, variable across the Project area	Low
Alluvial fan deposits	Holocene to Pleistocene	Surface (variable across the Project area) and subsurface; starting at depths of 0 to 4 feet bgs and extending to over 51 feet bgs	Low-to-High, increasing with depth
Puente Formation	Pliocene to late Miocene	Subsurface (at depths of greater than 51 feet bgs)	High

**ranking based on the SVP (2010) classifications*

6.2 PALEONTOLOGICAL RESOURCES IMPACTS ASSESSMENT

The paleontological potential assessment presented above indicates that the Project area consist of up to 4 feet of artificial fill with low paleontological potential and over 51 feet of alluvium, with low potential that transitions to high potential at around 10 feet to 15 feet bgs, underlain by the high potential Puente Formation, which is likely present in the subsurface at over 51 feet bgs. Should paleontological resources preserved in the high potential units be damaged or destroyed by Project activities it would constitute a direct adverse impact under CEQA. Therefore, an impacts assessment was conducted to evaluate planned Project activities and their likelihood to pose an adverse impact to paleontological resources.

The Project plans to install a diversion structure for stormwater, stormwater vaults, a utility shed, and habitat restoration. This work is expected to entail ground disturbance. The vaults are expected to be 10 feet to 12 feet wide and buried 20 feet to 32 feet below grade. The wetland excavations are expected to be approximately 7 feet deep. Of these, the vault excavations may impact paleontological resources, while the wetland excavations are too shallow to impact the high potential units in the subsurface. Following construction, operations and maintenance activities are not anticipated to involve additional ground disturbance.

Ground disturbing activities over 10 feet in depth may extend into the high sensitivity, older layers of alluvium. Such disturbances therefore risk posing a direct adverse impact to paleontological resources. Following construction, operations and maintenance are not expected to pose an impact to resources. Because this Project has the potential to cause direct adverse impacts, Stantec has developed recommendations for mitigating these impacts, presented below.

7.0 RECOMMENDATIONS AND MANAGEMENT CONSIDERATIONS

As part of the current paleontological assessment, a records search from the LACM, review of the geotechnical study, and a review of geologic mapping and the scientific literature were conducted in order to assess the potential of the geologic units in the Project area to preserve paleontological resources.

The results of this assessment show that geologic units with high paleontological potential may be present at depths of over 10 feet bgs. Project plans include excavations up to 33 feet below grade. Should Project-related activities encounter paleontological resources, the damage or destruction of those resources would constitute an adverse impact under CEQA. In order to adhere to State and City guidelines regarding paleontological resources, Stantec recommends the following:

1. A paleontologist meeting professional standards of the Society of Vertebrate Paleontology (2010) shall be retained as the project paleontologist to oversee all aspects of paleontological mitigation, including the development and implementation of a Paleontological Monitoring and Mitigation

Plan (PMMP) tailored to the Project plans that provides for paleontological monitoring of earthwork and ground disturbing activities into undisturbed geologic units with high paleontological potential to be conducted by a paleontological monitor meeting industry standards (Murphey et al. 2019). The PMMP should also include provisions for a Workers' Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of paleontological resources during construction, to be delivered by the paleontological monitor to the construction crew prior to the onset of ground disturbance.

2. Paleontological monitoring will be conducted by a qualified paleontological monitor for ground disturbance that exceeds 10 feet in depth across the Project area. The project paleontologist may reduce the frequency of monitoring or spot checks should subsurface conditions indicate low paleontological potential.

3. Should a potential paleontological resource be identified in the Project area, whether by the monitor or a member of the construction crew, work should halt in a safe radius around the find (usually 50 feet) until the project paleontologist can assess the find and, if significant, salvage the fossil for laboratory preparation and curation at the Natural History Museum of Los Angeles County.

These recommendations meet the standards of the SVP (2010) and conform to industry best practices (e.g., Murphey et al. 2019; Scott and Springer 2003). Based on the findings in this study the proposed project will not cause an adverse impact to paleontological resources with the incorporation of the above mitigation recommendations. Therefore, no additional paleontological resources studies are recommended or required at this time. Should the project location or plans change, this assessment will need to be revised to address those changes.

8.0 REFERENCES

Barboza, M., J. Parham, G.-P. Santos, B. N. Kussman, and J. Velez-Juarbe, 2017. The age of the Oso Member, Capistrano Formation, and a review of fossil crocodylians from California. PaleoBios 34: 1-16.

Barnosky, A., C. Bell, S. Emslie, H. T. Goodwin, J. Mead, C. Repenning, E. Scott, and A. Shabel. 2004. Exceptional record of mid-Pleistocene vertebrates helps differentiate climatic from anthropogenic ecosystem perturbations. *Proceedings of the National Academy of Sciences* 101: 9297-9302.

Carnevale, G., T. W. Pietsch, G. T. Takeuchi, and R. W. Huddleston, 2008. Fossil Ceratioid Anglerfishes (Teleostei: Lophiiformes) from the Miocene of the Los Angeles Basin, California. *Journal of Paleontology* 82: 996-1008.

City of Los Angeles. 2001. *General Plan*. Available at: https://planning.lacity.org/plans-policies/general-plan-overview. Accessed on July 14, 2022.

--------. 2006. *CEQA Thresholds Guide*. Available at: http://ibecproject.com/PREDEIR_0013306.pdf Accessed on July 14, 2022.

Collins, P., D. Guthrie, E. Whistler, R. Vellanoweth, and J. Erlandson. 2018. Terminal Pleistocene-Holocene avifauna of San Miguel and Santa Rosa Islands: identifications of previously unidentified avian remains recovered from fossil sites and prehistoric cave deposits. *BioOne Complete* 78: 370-403.

Connin, S., J. Betancourt, and J. Quade. 1998. Late Pleistocene C4 plant dominance and summer rainfall in the Southwestern United States from isotopic study of herbivore teeth. *Quaternary Research* 50: 179-193.

Converse Consultants. 2022. *Geotechnical Investigation Report: Bowtie Wetland Park Storm Drain Diversion*. Report prepared for Stantec. 72 pp.

Critelli, S. P. Rumelhart, and R. Ingersoll. 1995. Petrofacies and provenance of the Puente Formation (middle to upper Miocene), Los Angeles Basin, southern California: implications for rapid uplift and accumulation rates. *Journal of Sedimentary Research* A65: 656-667.

Eisentraut, P. and J. Cooper. 2002. *Development of a model curation program for Orange County's archaeological and paleontological collections*. Prepared by California State University, Fullerton and submitted to the County of Orange Public Facilities and Resources Department/Harbors, Parks and Beaches (PFRD/HPB).

Feldmann, R. M. 2003. Decapod crustaceans from the Puente formation (late middle to early late Miocene), California: a possible mass death. *Bulletin of the Southern California Academy of Sciences* 102: 107.

Geotek, Inc. 2021. *Preliminary Geotechnical Evaluation Bowtie Wetland Park Improvements South of the Casitas Avenue Cul-De-Sac Los Angeles, Los Angeles County, California*. Report prepared for Bluegreen Consulting. 49 pp.

Graham, R.W. and E.L. Lundelius. 1994. FAUNMAP: A database documenting the late Quaternary distributions of mammal species in the United States. *Illinois State Museum Scientific Papers* XXV(1).

Huddleston, R. W. and G. T. Takeuchi, 2006. A new Late Miocene species of Sciaenid fish, based primarily on an *in situ* otolith from California. *Bulletin of the Southern California Academy of Sciences* 105: 30-42.

Hudson, D. and B. Brattstrom. 1977. A small herpetofauna from the Late Pleistocene of Newport Beach Mesa, Orange County, California. *Bulletin of the Southern California Academy of Sciences* 76: 16-20.

Ingersoll, R. V. and P. E. Rumelhart. 1999. Three-stage basin evolution of the Los Angeles basin, southern California. *Geology* 27: 593-596.

Jefferson, G.T. 1991a. A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. *Natural History Museum of Los Angeles County Technical Reports* No. 5.

--------. 1991b. A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. *Natural History Museum of Los Angeles County Technical Reports* No. 7.

Jones, T., J. Porcasi, J. Erlandson, H. Dallas, T. Wake, and R. Schwaderer. 2008. The protracted Holocene extinction of California's flightless sea duck (*Chendytes lawi*) and its implications for the Pleistocene overkill hypothesis. *Proceedings of the National Academy of Science* 105: 4105-4108.

Leatham, W. B. and C. North. 2017. Late Miocene "great white" shark from the Puente Hills, San Bernardino County, CA: rare preservation of vertebral centrae of a marine apex predator (*Carcharodon* sp., a lamniform elasmobranch). *Bulletin of the Southern California Academy of Sciences* 113: 119.

McDonald, H. G. and G. T. Jefferson. 2008. Distribution of Pleistocene Nothrotheriops (Xenartha, Nothrotheridae) in North America. In: Wang, X. and L. Barnes, eds., *Geology and Vertebrate*

Paleontology of Western and Southern North America. Natural History Museum of Los Angeles County Science Series 41: 313-331.

Miller, W. E. 1941. A new fossil bird locality. *Condor* 44:283-284.

--------. 1971. Pleistocene vertebrates of the Los Angeles Basin and vicinity: exclusive of Rancho La Brea. *Los Angeles County Museum of Natural History Technical Reports*, No. 10.

Morton, D. M. and F. K. Miller. 2006. *Geologic map of the San Bernardino and Santa Ana 30' × 60' quadrangles, California*. U.S. Geological Survey Open-File Report 2006-1217. Scale 1:100,000.

Murphey, P., and D. Daitch. 2007. *Paleontological Overview of Oil Shale and Tar Sands Areas in Colorado, Utah, and Wyoming*. U.S. Department of Energy, Argonne National Laboratory report prepared for the U.S. Department of Interior Bureau of Land Management, p. 468 and 6 maps (scale 1:500,000).

Murphey, P., G. Knauss, L. Fisk, T. Demere, and R. Reynolds. 2019. Best practices in mitigation paleontology. *Proceedings of the San Diego Society of Natural History* 47: 43 pp.

Natural History Museum of Los Angeles County (LACM). 2022. *Paleontological resources for the Bowtie Project.* Email response received on May 29, 2022.

Norris, R., and R. Webb. 1990. *Geology of California.* John Wiley and Sons, Inc., New York.

Reynolds, R. E., and R. L. Reynolds. 1991. The Pleistocene beneath our feet: near-surface Pleistocene fossils in inland southern California basins; pp. 41-43 in M. O. Woodburne, R. E. Reynolds, and D. P. Whistler (eds.) *Inland Southern California: the last 70 million years*. San Bernardino County Museum Association, Redlands, California.

Roy, K., J. Valentine, D. Jablonski, and S. Kidwell. 1996. Scales of climatic variability and time averaging in Pleistocene biotas: implications for ecology and evolution. *Trends in Ecology and Evolution* 11: 458-463.

Sandom, C., S. Faurby, B. Sandel, and J.-C. Svenning. 2014. Global late Quaternary megafauna extinctions linked to humans, not climate change. *Proceedings of the Royal Society B* 281, 9 pp.

Saul, L. R. and C. J. Stadum. 2005. Fossil argonauts (Mollusca: Cephalopoda: Octopodida) from late Miocene siltstones of the Los Angeles Basin, California. *Journal of Paleontology* 79: 520-531.

Scott, E. 2010. Extinctions, scenarios, and assumptions: Changes in latest Pleistocene large herbivore abundance and distribution in western North America. *Quaternary International* 217: 225-239.

Scott, E., and K. Springer. 2003. CEQA and fossil preservation in southern California. *The Environmental Monitor* 4-10.

Society of Vertebrate Paleontology (SVP). 2010. *Standard Procedures for the assessment and Mitigation of adverse impacts to paleontological resources*. Available at https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf; Accessed on March 17, 2022.

Trayler, R.B., Dundas, R.G., Fox-Dobbs, K. and Van De Water, P.K. 2015. Inland California during the Pleistocene—Megafaunal stable isotope records reveal new paleoecological and paleoenvironmental insights. *Palaeogeography, Palaeoclimatology, Palaeoecology* 437: 132-140.

Yerkes, R. F., T. H. McCulloh, J. E. Schollhamer, and J. G. Vedder. 1965. *Geology of the Los Angeles Basin – an introduction*. Geological Survey Professional Paper 420-A.

Yerkes, R.F., Campbell, R.H., Alvarez, Rachel, and Bovard, Kelly. 2005. *Preliminary geologic map of the Los Angeles 30' X 60' quadrangle, southern California*. U.S. Geological Survey, Open-File Report OF-2005-1019. Scale 1:100,000.

APPENDIX A

Natural History Museum of Los Angeles County
Paleontological Records Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

May 29, 2022

Stantec Consulting Services, Inc.
Attn: Alyssa Bell

re: Paleontological resources for the Bowtie Demonstration Project

Dear Alyssa:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Bowtie Demonstration Project area as outlined on the portion of the Los Angeles USGS topographic quadrangle map that you sent to me via e-mail on May 28, 2022. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 6934	Along the slope between Quail Drive & Pheasant Drive; E of Mt Washington Elementary School	Monterey Formation (yellowish tan siltstone)	Baleen whale *(Mysticeti)*	found in hillslope rubble
LACM VP 1880	3320 Seymour St., W of Mt. Washington	Modelo Formation (orange shale)	Fish (Osteichthyes)	Surface
LACM VP CIT342	Sparkletts property near 45th & Lincoln in Highland Park	Unrecorded (Pleistocene)	Mammoth (*Mammuthus*), Bison (*Bison*)	14 feet bgs
LACM VP 7507	Near intersection of San Fernando Rd. & Humbolt St.	Monterey Formation	Fish (*Thyrsocles kriegeri*)	31-32 m bgs (collected during excavations of the Humboldt Street Sewer Shaft)
LACM VP 1023	Workman & Alhambra Sts, Los Angeles	Unknown formation (Pleistocene)	Sabertooth cat (*Smilodon*), horse (*Equus*), deer (*Odocoileus*), turkey	Unknown (excavations for storm

			(*Meleagris*)	drains)
LACM VP 6946 - 6948, 3250	Metrorail Red Line Vermont Ave. / Beverly Blvd. subway station entrance	Puente Formation (weathered yellowish brown thin bedded siltstone shale)	Herring (*Xyne, Ganolytes*), smelt (*Bathylagus*), bristlemouth (*Cyclothone*), lanternfish (Myctophidae), drum family (Sciaenidae), mackerel/tuna/bonito family (Scombridae), croaker (*Genyonemus*), viperfish (*Chauliodus*), porgies (*Plectrites*), bonito (Sarda), drumfish (Lompoquia), perch-like fish (*Thyrsocles*), jack (*Decapterus*), rock bass (*Paralabrax*), argentine (*Argentina*); invertebrates	60-80 feet bgs

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

APPENDIX E REMOVAL ACTION WORK PLAN

amicus

REMOVAL ACTION WORKPLAN

NATURE CONSERVANCY DEMONSTRATION PROJECT

Taylor Yard
Los Angeles, California

PREPARED FOR:

The Nature Conservancy
445 South Figueroa Street, Suite 1950
Los Angeles, CA 90071

PREPARED BY:

Amicus – Strategic Environmental Consulting
580 Second Street
Suite 260
Oakland, CA 94607

March 15, 2023

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1 SUMMARY

This Removal Action Workplan has been prepared in support of The Nature Conservancy "Demonstration Project" planned for construction in 2023. The approximately three-acre Demonstration Project is located on land owned by the California Department of Parks and Recreation (California State Parks) at the northernmost end of the former Union Pacific (UPRR) Taylor Yard. The 18-acre State Parks property upon which the Demonstration Project is located is referred to as the "Bowtie parcel" or by its former UPRR "G-1" parcel designation, and identified by the Los Angeles Assessor as parcel number (APN) 5442-002-914.

As detailed herein, the TNC project will "daylight" water from a subterranean storm sewer to a constructed flow-through feature designed to resemble a natural system. The storm sewer effluent presently drains untreated during precipitation events to the adjacent Los Angeles River. The Demonstration Project will transform the terminus of this storm system into a meandering ephemeral wetland, planted with native species and enhanced with viewing platforms and landscaping to provide a verdant landscape at the northern end of the former industrial railyard. The land is presently bare, vacant, and unutilized.

An environmental assessment was performed to determine site environmental quality during the early project planning phase as this property was once a part of a railyard and adjacent to historic industry and a transportation corridor. Results of site testing confirmed the presence of common urban contaminants (primarily lead and petroleum hydrocarbons) in several samples of surficial Demonstration Project soil. Contaminant concentrations were high enough to warrant additional assessment and planning in support of the removal of shallow soil prior to the Demonstration Project construction; this RAW describes the comprehensive evaluative process and selection of the most appropriate removal action alternative. The Demonstration Project will build over and cover the deeper existing soil horizons following removal of the shallow interval containing contaminants of concern at concentrations above cleanup objectives.

The RAW considered the "No Action" alternative, an in-situ approach using phytoremediation, relocation of contaminated soil to the neighboring G-1 Bowtie Parcel for long-term management, and excavation and off-site disposal. For the reasons described herein, excavation and off-site disposal was chosen as the most suitable alternative.

2 INTRODUCTION

2.1 Removal Action Process

2.1.1 Regulatory Basis for RAW

California HSC 25323.1 defines a RAW as "a workplan prepared or approved by the Department (DTSC) or a California Regional Water Quality Control Board (RWQCB) which is developed to carry out a removal action, in an effective manner, that is protective of the public health and safety and the environment."

A RAW describes mitigation objectives and methodology for cleanup actions estimated to cost less than $2,000,000. If the estimated capital cost of implementing the chosen action exceeds $2,000,000, a Remedial Action Plan (RAP) should be prepared. The estimated cost of the selected removal alternative recommended in this RAW is estimated to be less than $2,000,000.

2.1.2 Objectives of the RAW

The objectives of this RAW are to:

- Describe the context of the planned project in terms of historic land use and future development plans, environmental conditions, and project outcomes;
- Summarize results of environmental investigations and present a Conceptual Site Model that describes site characteristics and environmental quality;
- Identify human and non-human ecologic receptors potentially at risk due to the presence of environmental contamination;
- Evaluate remedial alternatives appropriate for mitigating potential risk to receptors; and
- Establish removal action objectives and identify a final recommendation for a removal action at the site that is protective of human health and the environment.

It is anticipated that the recommended remedial alternative will be most cost-effectively implemented at the time of Demonstration Project construction. As such, this RAW will be followed at the appropriate time by an implementation plan that will be accompanied by the customary supporting documentation described later in this report (Health & Safety Plan, Transportation Plan, etc.). As described later in this RAW, these documents will be submitted to DTSC for review and comment prior to commencement of removal activities.

2.1.3 Elements of the RAW

To accomplish the objectives stated in the preceding section and satisfy regulatory requirements, this RAW includes the following elements:

- A description of the nature and extent of the contaminants of concern (COCs) at the Site;
- The goals to be achieved by the removal action;
- An analysis of the alternatives considered and rejected, and the basis for the rejection, including a discussion of effectiveness, implementability, and cost of each alternative;
- A description of the recommended alternative; and
- A description of the process associated with the development of the implementation plan.

2.2 Site Description

2.2.1 TNC Demonstration Project Description

A priority of TNC's Urban Program is working to demonstrate the utility of incorporating nature and ecology into the built urban environment. In Los Angeles, TNC has recently focused on natural infrastructure – infrastructure based on natural systems and processes – to transform aspects of urban life. The TNC Demonstration Project is part of this undertaking, with its objective being the construction of a feature modeled after nature to improve the quality of urban stormwater as it flows from the surrounding community to the Los Angeles River. The Taylor Yard Bowtie G-1 parcel (Figure 1) was one of ten sites studied by TNC as they evaluated optimal locations for their project (TNC, 2018).

Figure 2 shows the preliminary concept plan for the Demonstration Project. As depicted, the project daylights a storm drain that presently drains untreated stormwater to the Los Angeles River near the northern project area boundary and diverts stormwater to a series of vaults designed to remove trash, debris and suspended solids, then to a constructed arroyo planted with native vegetation selected for its ability to thrive in the wet and dry seasons of the Los Angeles environment. The outfall from the constructed feature will be plumbed back into the existing storm drain from which it will exit to the river. The project is being designed to accommodate the 85th percentile storm event; stormwater will be directed to the storm drain during times of precipitation in excess of this threshold. It should be noted that layout details may change during the final design process. The removal action will marry to the final design.

When completed, the project footprint will be occupied largely by the constructed arroyo and planted berms. Public access will be limited to walking paths, a boardwalk, viewing platforms and a small parking lot. The project design includes no structures for occupation or use by humans.

Note that the demonstration project is to be constructed on land owned by California State Parks. As such, the approximate 3-acre project footprint has no customary legal description; its boundaries are somewhat approximate and have evolved over the last two years. The present boundary and the boundary drawn in the 2020 Weston Solutions (Weston) Phase I/II Targeted Brownfield Assessment report are presented in Figure 3 for comparison.

2.2.2 Current Land Use

The property is presently vacant and free of any structural development. It is not presently officially used for any purpose as it awaits redevelopment as the TNC Demonstration Project. Photographs of the land in its present state are presented in Figures 4 and 5.

2.2.3 Historic Land Use

Historic development and use of the project property and neighboring land is documented in technical reports available on the DTSC Envirostor portal and is most recently described in the June 2020 Weston report. The area to be occupied by the TNC Demonstration Project was once owned by Southern Pacific Railroad Company, then by the Union Pacific Railroad Company (UPRR), ultimately being acquired by the California Department of Parks and Recreation (State Parks) in 2003 as part of the larger Bowtie G-1 18-acre parcel transaction.

The project area is located at the northern boundary of the former Taylor Yard, a historic rail yard and rolling stock fueling and maintenance facility (Figure 6). As discussed by Weston, this portion of Taylor Yard remained structurally undeveloped for the span of years the yard was active. No buildings, tracks, or any other feature associated with intensive rail use was identified in the available public record.

Aerial photographs are presented in the Weston TBA. The 1923 aerial photograph (the oldest photograph in the record reviewed by Weston) shows the project area in a natural state as part of the Los Angeles River floodplain. The 1938 photograph shows the land in the process of being "reclaimed" by the US Army Corps of Engineers as they channelize the river. More recent photographs depict historic project area uses as largely for parking, materials storage, and a contractor's yard.

The aerial photographs from the Weston report are provided for convenient reference in Appendix A of this report.

2.2.4 Adjacent Properties

The aerial record also depicts the transformation of a lightly developed, primarily residential river community in the early 1900s to the more dense mixed-use community observed today. The residential community to the north was eliminated with the construction of the Glendale Freeway (California State Route 2) in 1959. As shown on the 1964 aerial photograph, the freeway truncated the community, and the houses left on its southern side were gone by

1979, replaced by light industrial development including the Nelson Nameplate facility immediately to the northwest of the project boundary.

The Los Angeles River borders the property to the southwest with the residential community of Elysian Valley on the far side of the river. Land to the southeast is an undeveloped portion of the Bowtie G-1 parcel that, similar to the project parcel, was not previously occupied by rail-intensive uses. Plans for redevelopment of the balance of G-1 by State Parks for recreational space are presently being developed.

The UPRR rail corridor and the Metrolink light rail border the property to the east. Land to the east of the rail corridor, previously occupied by numerous yard rail spurs, has been redeveloped for commercial/light industry use over the years following decommissioning of this portion of the rail facility.

2.3 Site Owner

The approximate 3-acre Demonstration Project is part of the 18-acre G-1 Bowtie parcel owned by the California Department of Parks and Recreation (State Parks). State Parks acquired this parcel from the Union Pacific Railroad Company (UPRR) in 2003.

2.4 Purpose of Removal Action

As described later in this report, concentrations of identified contaminants exceed conservative “screening levels” relied upon by California environmental regulatory agencies during the evaluation of risk to human and environmental health. The contaminants of concern have been shown to be present in the shallow soil horizon; removal of this soil before or during construction of the Demonstration Project will ensure the property is demonstrably safe for construction workers and any future visitor or user.

Two iterations of this RAW were submitted to DTSC as a Draft documents for review and comment. This third iteration incorporates DTSC comments to the prior drafts. Following DTSC acceptance, this draft will be made available for public review, a comment period noticed, and a community meeting convened to receive and resolve mitigation-related questions and concerns. It is noted that other community meetings will continue to be arranged by TNC to provide regular project updates as the RAW is being prepared.

Following completion of the public comment period, DTSC will consider and respond to the comments received. The RAW will be revised as necessary in response to comments and provided again for review. Following resolution of all outstanding issues DTSC will then approve the RAW for implementation. When the remedy has been completed, a removal action completion report will be submitted to DTSC for review and certification.

3 CONCEPTUAL SITE MODEL

3.1 Investigations

Site investigation and response actions at Taylor Yard were historically initiated and managed by the Southern Pacific Transportation Company. Following their merger with UPRR in 1996, UPRR became the party responsible for directing response activity; reports and correspondence were subsequently addressed to them. The oldest document posted to the DTSC Envirostor portal is the "Site Investigation Report" by Environmental Resources Management (ERM). It is important to note that the Envirostor portal containing the oldest project-property documentation is that created for UPRR Parcel G-2; documentation up to the 2003 acquisition of the G-1 Bowtie Parcel by State Parks addresses both G-1 and G-2 in their pre-divided state. More recent project-property documentation is loaded to the Envirostor portal for "G-1."

ERM conducted site assessment and remediation work for UPRR to prepare G-1 for acquisition by State Parks. As documented in the August 2003 "Soil Excavation and Preliminary Endangerment Assessment Workplan" and the November 2003 "Removal Action Workplan" ERM advanced borings and collected soil samples for the purposes of pre-sale G-1 characterization. This site assessment informed the 2003 RAW, which proposed excavation and removal of soil in four specific sub-areas of which one, referred to by ERM as Area 1, was located near the northern tip of the TNC Demonstration Project. The basis for the excavation in Area 1 was the presence of arsenic in soil in excess of background levels. ERM identifies no feature or use in the vicinity of Area 1 or the Demonstration Project boundaries as a perceived source of contamination.

More recent episodes of site characterization on and near the TNC Demonstration Project area have been completed by Leighton and Associates (Leighton) and Weston Solutions (Weston). Leighton's 2015 sampling points were distributed across the G-1 parcel; seven sampling locations were near the Demonstration Project footprint but none were actually advanced on the project property itself. Weston's work, conducted under a USEPA Brownfield Grant, focused exclusively on the Demonstration Project area; their findings are documented in the 2020 Final Phase I/II Investigation Targeted Brownfield Assessment report.

Weston collected only soil samples; no boring was advanced deeper than 20 feet below ground surface (depth to groundwater is approximately 30 feet beneath the Demonstration Project footprint). Leighton also did not collect samples of groundwater from their borings advanced near the project property. They did, however, collect soil vapor samples from borings B-1 and B-3 located on G-1 property bordering the Demonstration Project footprint to the north.

Weston collected samples of surficial soil and subterranean sediment samples at depths of five, 10, 15 and 20 feet below ground surface (bgs) from each of 12 investigative borings advanced across the property. As described below, hydrocarbons and lead were only detected in the surficial soil samples; the samples at five feet bgs and deeper were shown to contain no concentrations of contaminants of concern.

In their July 2020 Analysis of Brownfield Cleanup Alternatives (ABCA) report, Weston identifies excavation and removal or sequestration of shallow contaminated soil as the most appropriate remedial methodology but also acknowledged that remedial planning requires development of an understanding of a more precise lower boundary of the affected interval.

Data gap sampling was conducted on March 9 and 10, 2022 in accordance with the Amicus October 2021 "Final Work Plan for Data Gap Soil Sampling." As described in the workplan, the sampling plan was designed to evaluate the interval between the Weston surficial samples and five feet below grade. Citadel EHS (Citadel) implemented the workplan, collecting samples adjacent to each prior Weston sampling location at depths of two, four and five feet below ground surface.

Samples were transported under chain of custody control to the project laboratory for analysis of:

Lead – EPA Method (EPAM) 6010B
Polycyclic hydrocarbons – EPAM 8270SIM
Diesel-range hydrocarbons – EPAM 8015B

Citadel sampling methodology is presented in their April 15, 2022 report (RAW Appendix B).

3.2 Findings

3.2.1 Geology and Hydrogeology

The project property is located near the eastern edge of the channelized Los Angeles River in an area colloquially known as the Glendale Narrows, a relatively steep-sided portion of the river's alluvial plain bordered by the Elysian Hills to the west and the Repetto Hills to the east. As described by Leighton, the valley fill is relatively coarse near its contact with underlying bedrock; sediments encountered during the various site investigations are finer-grained, with interbedded silty sand and fine-grained sand the most prevalent sediment type in the shallow subsurface.

Unconfined groundwater was encountered by Leighton at approximately 33 feet below ground surface; the direction of groundwater flow in the study area was determined to be to the south-southeast, similar to the trend of the valley and the flow direction of the Los Angeles River.

3.2.2 Nature and Extent of Contamination

Physical assessment of the project property and other areas of Taylor Yard have shown the presence of use-related hazardous substances in soil as well as encroachment of contamination migrating in groundwater from off-site sources.

Groundwater

Groundwater beneath and around the Demonstration Project area is inferred to contain contamination, namely the volatile organic compounds (VOC) trichloroethylene (TCE) and tetrachloroethylene (PCE) migrating from source areas in the valley to the north (in and around the cities of Burbank and Glendale). Taylor Yard is included in the boundary of what is referred to as Area 4 of the San Fernando Valley Superfund Site (US EPA, 2008). No indication of a source of groundwater contamination on or near the Demonstration Project area has been identified and none is believed to exist.

As described above, Leighton did not collect samples of groundwater from the borings advanced near the project property. They did, however, collect soil vapor samples from borings B-1 and B-3 located on G-1 property approximately 100 feet north of the Demonstration Project footprint. Low concentrations of PCE were detected in the samples collected in both locations with values increasing with depth. VOC concentration and signature was consistent in vapor probes advanced across the length of the Bowtie parcel. Leighton concluded that the pattern of VOC in soil vapor is indicative of volatilization of VOC from underlying groundwater.

Shallow Soil

Both the 2020 Weston and 2015 Leighton investigations describe the detection of hydrocarbon compounds and lead in near-surface soil at concentrations exceeding natural background levels and, in some of their samples, at concentrations exceeding regulatory agency (RWQCB and EPA) screening levels. Results of analysis of the 2022 Citadel sampling event show no concentrations of target analytes above the conservative regulatory residential screening levels at any interval tested (two, four or five feet below ground surface).

Concentrations of hydrocarbons and lead in surficial soil may be related to deposition from an aerial source, such as by-products of fuel combustion (diesel and leaded gasoline by highway traffic, diesel and coal by railroad engines). Episodic uses as a contractor's yard may also have contributed to the degradation of shallow soil environmental quality.

Results of analysis of samples collected during the recent data-gap sampling showed the lower boundary of contamination in areas identified by Weston to contain concentrations of contaminants of concern above the cleanup objective as between ground surface and two feet bgs. The vertical extent of shallow soil contamination above cleanup objectives has been delineated.

As described in the workplan and discussed with DTSC staff, the results of analysis of Citadel data gap samples will also satisfy requirements for removal action confirmation sampling; no additional sampling of the area containing contamination above screening levels will be required.

Tables and figures from the Leighton and Weston reports showing specific contaminant concentrations and distribution are presented in Appendix C of this report.

3.3 Human Health Risk Assessment

3.3.1 Identification of Chemicals of Concern

As described in the preceding sections, subsurface media near and beneath the Demonstration Project footprint has been studied over the course of four episodes of assessment. Two of the investigations were conducted outside the boundaries of the demonstration project (ERM and Leighton); two were completed inside the footprint (Weston and Citadel).

Results of investigation have been generally consistent, and contaminants in excess of the applicable Residential Screening Levels were shown by the Weston and Citadel efforts to exist only in surficial soil:

- Lead (concentrations up to 140 ppm in two of 12 surface soil samples)
- Diesel-range hydrocarbons (concentrations up to 640 ppm in 4 of 12 surface samples)
- Benzo(a)pyrene (concentration of 4,000 ppb in two of 12 surface samples)
- Benzo(b)flouranthene (concentration of 140,000 ppb in one of 12 surface samples)
- Benzo(k)flouranthene (concentration of 46,000 in one of 12 surface samples)
- Benzo(a)anthracene (concentration of 190,000 ppm in one of 12 surface soil samples)
- Ideno(1,2,3-cd)pyrene (concentrations up to 62,000 ppb in 3 of 12 surface samples)
- PCE and TCE (inferred presence in groundwater)

3.3.2 Receptors and Exposure Assessment

The Demonstration Project property is presently vacant and undeveloped. When completed, the Demonstration Project will be developed as a meandering channel mostly underlain by an impermeable liner (Figure 2). Berms constructed of excavated clean soil and imported certified clean fill for make-up as necessary will rise several feet above original ground surface and an elevated viewing platform is planned for the southern corner. A small parking lot and access road are also planned for the southern project boundary. No above-ground structures for human occupation will be constructed; subterranean vaults associated with the stormwater system will be installed near the northern property corner. As noted previously, the location of certain design elements may change as the project layout is finalized.

Potential receptors include project construction workers (both during project construction and post-construction maintenance/utility workers), neighboring residents (during construction) and future feature visitors. Uptake mechanisms for receptor exposure include dermal contact with surficial soil, inhalation of dust during or after construction (if the post-construction surface consists of the same surficial soil as today), and ingestion.

3.3.3 Risk Evaluation

As described above, concentrations of contaminants in surficial soil exceed conservative environmental agency residential screening levels in several places. Consideration of these environmental conditions, receptors, and the uptake mechanisms described above indicates the possibility of surficial soil with identified contamination posing a potentially unacceptable risk. Approaches to hazard mitigation are evaluated in this report.

4 REMOVAL ACTION GOALS AND OBJECTIVES

A "removal action" is intended to mitigate risk posed to receptors by the presence of environmental contamination. The nature of the action is a function of the physical and chemical properties of the contaminants themselves, the characteristics of the potentially exposed human and non-human ecologic population, and the uptake mechanisms by which receptors may come in contact with the identified contaminants.

4.1 Removal Action Objectives

As described in this RAW and in previously published technical reports, certain contaminants have been detected above acceptable concentrations in the upper two foot shallow sediment horizon within the Demonstration Project footprint. The concentrations of these contaminants in some samples are above screening levels for residential land use, the most conservative traditional screening level used to evaluate property environmental quality.

Upon its completion, the Demonstration Project footprint will be largely occupied by constructed channels and berms planted with native vegetation and inaccessible to foot traffic. A smaller portion of the footprint will be accessible to visitors adjacent to parking areas, along the project margins and at trail connections and viewing platforms.

As shallow soil has been shown to contain concentrations of lead and hydrocarbons above conservative Residential screening levels, its removal prior to Demonstration Project construction will facilitate both project implementation and community confidence regarding soil quality in the accessible areas post-construction.

4.2 Applicable or Relevant and Appropriate Requirements

With regard to the proposed Demonstration Project removal action, applicable or relevant and appropriate requirements (ARARs) are federal and state environmental statutes, regulations, and standards that specifically address the hazardous substance that is the subject of the removal action and the action itself. "To be considered (TBC)" criteria are also customarily referenced during the design of a remedial action and are identified here.

As described by Weston in their ABCA:

"ARARs or TBCs are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in, or discharged to, the environment. Location-specific ARARs or TBCs restrict actions or contaminant concentrations in certain environmentally sensitive areas."

With respect to cleanup goals, Section 25355.7 of the California Health and Safety Code establishes the processes and procedures to be employed by DTSC in association with assessment/mitigation of releases of hazardous substances to the environment. Cleanup standards for individual hazardous substances are not codified in statute; DTSC operating as authorized has discretion and latitude with respect to approving the selection of certain cleanup standards by project proponents.

Federal statutes with respect to RAW implementation apply, and all removal action contractors will adhere to the requirements of the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), Hazardous Waste Operations and Emergency Response (HAZWOPER) standard codified in 29 CFR 1910.120 during conduct of cleanup activities. The HAZWOPER standard applies to cleanup operations required by a federal, state, local, or other governmental body involving hazardous substances. State and federal regulations apply to the transport and disposal of material removed during RAW implementation.

Local South Coast Air Quality Management District (SCAQMD) rules shall also be adhered to during soil disturbance/excavation activities. Specifically, airborne dust monitoring shall be conducted in conformance with SCAQMD Rule 403. Point of activity (at excavation equipment and loading locations) monitoring will be conducted by implementation contractors; perimeter monitoring using stationary equipment will also be conducted.

The migration of fugitive dust from the property has long been an articulated community issue of concern. The removal action acknowledges this concern and TNC and project contractors will be in communication with neighbors and DTSC in the months leading up to commencement of the removal action. Monitoring methodology, equipment specifications, record keeping, contingency measures and procedures required by the SCAQMD will be described in an air/dust monitoring plan submitted by the selected RAW implementation contractor for review by the community and DTSC prior to cleanup implementation.

4.3 Removal Goals

Surficial soil has been shown to contain concentrations of hydrocarbons and lead in excess of conservative residential screening levels in several project property locations. As it is common for the strictest screening levels to be used as remedial objectives in lieu of a site-specific risk assessment, it is proposed these levels be used here.

For the Demonstration Project, DTSC and TNC will rely primarily upon "Environmental Screening Levels" (ESL) developed by the San Francisco Bay Regional Water Quality Control Board (RWQCB) for the establishment of hydrocarbon-range cleanup goals and upon the EPA Regional Screening Levels (RSL) for polyaromatic hydrocarbon cleanup goals. For lead, this RAW relies upon the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 4 conservative residential screening level.

Removal goals, therefore, are as follows:

Contaminant	Removal Goal
Lead	80 PPM (DTSC Residential SL)
Diesel-range hydrocarbons (TPH-D)	260 PPM (RWQCB ESL)
Benzo(a)pyrene	110 PPB (EPA RSL)
Benzo(b)flouranthene	1,100 PPB (EPA RSL)
Benzo(k)flouranthene	11,000 PPB (DTSC SL)
Benzo(a)anthracene	1,100 PPB (DTSC SL)
Ideno(1,2,3-cd)pyrene	1,100 PPB (EPA RSL)

5 REMEDIAL ALTERNATIVE EVALUATION

5.1 Weston Identification and Analysis of Brownfield Cleanup Alternatives

Weston identified and evaluated four remedial alternatives in their July 2020 ABCA. The Weston remedial alternative evaluation was based on the understanding of environmental conditions and historic uses documented in their TBA and the relationship between these environmental conditions and the project planned by TNC.

Weston's analysis was similar in detail and approach to that evaluation typically undertaken during the preparation of a RAW; their evaluative process and recommendations are examined here.

As described by Weston:

Those alternatives deemed potentially capable of achieving the overall project goal were evaluated for effectiveness, implementability, and cost. Based on the planned reuse for the Site, the following cleanup alternatives were evaluated:

- *Alternative 1: No Action*
- *Alternative 2A – Excavation to 2 ft bgs, Disposal, Backfill, and ICs*
- *Alternative 2B – Excavation to 2 ft bgs, Disposal, Capping, and ICs*
- *Alternative 3 – Excavation to 1 ft bgs, Disposal, Capping, and ICs*
- *Alternative 4 – Excavation, Capping, and ICs*

Weston's assumptions and criteria for alternative consideration were evaluated during preparation of this RAW. As summarized above, with the exception of the No Action alternative, the remedial alternatives evaluated by Weston all involved some form of excavation, removal, capping and Institutional Controls (IC). The capping component of the Weston alternatives assumed incomplete removal and the need to manage some quantity of contaminated soil on site. The IC in these instances associated primarily with cap inspection and maintenance.

Other methods for in-situ or on-site remediation/stabilization of residual hydrocarbons and metals in shallow soil were considered by Weston and rejected. Rejection was due primarily to the fact that the TNC undertaking itself will excavate a substantial portion of the property for the creation of channels and other elements of the bioswale flow-through feature. Additionally, given the timetable for the TNC Demonstration Project, an in-situ solution that requires a long period of time to complete is impracticable.

Weston Remedial Alternatives 2, 3 and 4 all involve excavation and off-site disposal. The alternatives differ however, in terms of the depth of the cut and the reuse of a portion of the excavated material on-site. For example, Alternatives 2B, 3, and 4 all involve some manner of long-term residual contaminated soil management on the project property following the completion of shallow soil excavation and removal. Alternative 2A assumes that contamination in shallow soil extends no deeper than two-feet below grade and that a two-foot excavation, removal and replacement with clean fill is protective to site users will completely remove contaminants of potential concern from the project property.

5.2 Additional Removal Action Alternatives

This RAW considers two additional approaches to contaminant removal from the Demonstration Project parcel. The No Action alternative is reexamined here as well.

1. In situ contaminant removal via plant/crop propagation (either on the Demonstration parcel or on adjacent State Parks-owned Bowtie land);

2. Shallow soil removal from the Demonstration Project footprint and relocation onto adjacent State Parks-owned property for maintained storage until such time that the material could be incorporated into the redevelopment of the remainder of G-1 Bowtie for its future public use.

3. No action. The "no action" alternative is clearly inappropriate, as concentrations of metals and hydrocarbons in excess of remedial objectives are present in shallow soil at the subject site. The no action alternative may be appropriate in an instance where there was no contemplated development. As development is to occur, the no action alternative is infeasible.

The appealing aspect of on- or near-property remediation/management solutions is the elimination of potentially neighborhood-disrupting truck trips for off-site disposal and consequent lower emission-generation (from truck exhaust).

As the construction of project features is planned to commence in 2023, phyto-remediation within the project footprint is impractical due to the multiple growing seasons required for remedial success (if pilot studies demonstrated feasibility).

Relocation of soil from the project parcel to the adjoining portion of the G1 Bowtie property is feasible, and would produce a lower amount of carbon-emissions than those generated by truck trips to an off-site disposal facility.

It would be logistically more complicated, however, and the equipment/disturbance required for material relocation to a more distant (even if still proximal) location would likely generate a greater quantity of dust and particulate than that created by loading and off-site transport/disposal. Strong community sentiment with respect to hazards potentially posed by dust has been expressed on numerous occasions during the project planning outreach process. Additionally, the community to date has expressed a preference for this material to be removed in its entirety; relocation for a longer-duration phyto-remedial effort or for longer-term management within adjacent Bowtie amenity features (beneath elevated landscaped areas or beneath parking areas, for example) is expected to not be a community-preferred remedial solution.

5.3 Evaluation of Removal Action Alternatives

The nine criteria documented in the National Contingency Plan (NCP - 40CFR300.430 (e) (9)) are commonly utilized during the evaluation of remedial action alternatives:

Threshold Criteria

1. Overall protection of human health and the environment.
2. Compliance with ARARs (applicable or relevant and appropriate standards).

Primary Balancing Criteria

3. Long-term effectiveness and permanence.
4. Reduction of toxicity, mobility or volume
5. Short-term effectiveness
6. Implementability.
7. Cost.

Modifying Criteria

8. State acceptance.
9. Community acceptance.

The removal and off-site disposal alternative ranks high amongst each of the nine criteria as it is protective, satisfies project priorities around toxicity reduction, is generally comparable in cost, satisfactory to regulatory agencies and preferred by community stakeholders.

Excavation and relocation and reuse on adjacent Bowtie property ranks high on eight of the nine criteria, but this alternative is not embraced by the community as a whole. Community members have made their preferences clear with respect to the removal of soil contamination in its entirety from their neighborhood. They are also very concerned about dust generation, and the real or perceived issues associated with dust generation from additional handling, lowers the "community acceptance" ranking for this alternative. Additionally, as material excavated below two feet to create channels and pools is already planned for use creating berms, adding shallow excavated soil requiring an additional two feet of cover may result in excessive berm elevation, detracting from the Demonstration Project aesthetic. Refer to Table 1 for a summary of alternative attributes with respect to the nine criteria.

5.4 Recommended Removal Action Alternative

For the reasons described above, on-site contaminant reduction options or remediation/management on adjacent State Parks-owned G1 Bowtie property is either not practicable or less preferable to the community.

In their ABCA, Weston notes their objective of evaluating remedial alternatives, but underscore that their charge is not to select or recommend a specific approach, particularly as the site assessment was incomplete at the time of their ABCA. Considering that the Citadel data gap sampling affirmed that the interval beneath two feet is free of contaminants of concern above cleanup goals, a modified version of Weston Alternative 2A is recommended for project selection:

1. While the results of analysis show certain sample locations to contain no concentrations of COC above cleanup goals (Weston boring location B-07, B-10 and B-12) removal of the shallow soil across the entire project footprint to a depth of 2 feet below ground surface is proposed out of an abundance of caution (Figure 7). Assuming a project footprint of 3 acres, the approximate volume of the excavated material will be 10,000 cubic yards.

2. In light of the potential for VOC contamination in underlying groundwater associated with regional contamination (refer to Section 3.2.2 of this RAW for a description of regional contamination), recordation of a deed restriction requiring DTSC consultation prior to the construction of structures for human occupancy is proposed. As there is no cost associated with maintaining this restriction, no Financial Assurance documentation or enduring DTSC oversight should be required.

6 REMOVAL ACTION IMPLEMENTATION

As discussed in Section 2.2, the TNC Demonstration Project involves the construction of an engineered wetland designed to receive flow from a subterranean stormwater system presently draining untreated effluent to the LA River. As shown on Figure 2 (conceptual plan), the meandering channel will occupy approximately 80% of the project area footprint, with the remaining area either between channel meanders or narrow landscaped areas bordering the wetlands. Public access will be primarily concentrated near the small parking lot and interpretative observation point and near the border nearest the LA River along the future Paseo del Rio walking path.

While the large elements of the TNC Demonstration Project are established and not expected to change, smaller project design details and specifications remain to be finalized. As the removal action described herein is expected to integrate with project site preparation and mass grading, related integral components such as jurisdictional plans and permissions can only be described qualitatively at this time. As noted below, all required elements will be specified and performed by the appropriate contractor at the appropriate time in coordination with and under oversight from the DTSC,

The removal action itself will be undertaken by an appropriately trained and licensed remediation contractor under the guidance of a project specific Health and Safety Plan. The removal contractor shall be selected following a competitive bidding process. A specifications package prepared by TNC consultants will be the basis for the bidding document and will be issued at the same time as or before the solicitation for construction contractors for the Demonstration Project itself. A copy of the specifications package shall be provided to DTSC upon its completion.

All appropriate precautions will be taken to ensure safe materials handling, and robust dust monitoring is planned as a component of the remedial undertaking to ensure against off-property impact by fugitive particulate during soil removal. The Health and Safety Plan, the Construction Site Management and Transportation Plan, and the Dust Monitoring Plan shall be prepared by the selected contractor and reviewed and approved by DTSC prior to the commencement of the removal action. The Construction Site Management and Transportation Plan shall include a description of stockpile management, transport decontamination procedures, and the ingress/egress transport route and hours of activity.

6.1 Permitting and Site Preparation

Grading plans, air quality plans (AQMD Rule 1466 for dust control monitoring), Storm Water Pollution Prevention Plans (SWPPP) and all other required plans and permissions shall be published and/or obtained prior to the commencement of any field activity.

6.2 Excavation Methodology

Shallow soil shall be removed using conventional excavation equipment (grader, loader, and excavator) and either temporarily stockpiled or direct-loaded into trucks for transport to the selected landfill. The decision to stockpile or direct-load will be made based on transport availability and site logistics. The soil will be sampled and analyzed in accordance with disposal facility requirements prior to off-property transport. As a function of disposal facility requirements, samples for profiling will either be collected from the 0-2 foot interval in situ or from a soil stockpile after excavation. The disposal facility shall be chosen by the remediation contractor based on acceptance criteria, location, and tipping fee at the time of project commencement.

The evaluation of the presence of a "geophysical anomaly" identified by Weston during clearance for their program of investigative borings will be conducted as the earliest step in RAW implementation in advance of the actual property-wide removal action. The Weston report indicated the anomaly was reportedly approximately five feet across; Weston did not specify depth of burial. Subsequent communication with the company that performed the survey for Weston found that the object is likely smaller than five by five, and that it may be a piece of metal buried in the shallow subsurface or a small object at a depth of between three and six feet bgs.

As DTSC has requested this anomaly be evaluated and soil samples collected in the event the feature is determined to be of potential environmental concern, a test pit of up to eight feet in depth shall be excavated and conditions in this area visually observed. Field staff shall utilize a hand-held photo-ionization meter to screen representative soil for concentrations of VOC. All activities will be photo-documented.

If a feature from which a release of materials of potential concern could have occurred is identified (a small tank or a drum, for example), the feature will be removed and soil beneath the feature collected and analyzed for constituents related to what the feature may have stored (for example, if the feature is an oil drum the soil samples will be analyzed for concentrations of petroleum hydrocarbons). DTSC has requested that this soil be analyzed for concentrations of contaminants detected in shallow soil elsewhere at the project property irrespective the relationship of the other areas to the anomaly. Accordingly, if samples are collected they will also be analyzed for concentrations of metals, PAH, and diesel-range petroleum hydrocarbons in accordance with the EPA analytical methodology cited earlier in this document. Samples shall also be analyzed for VOC by EPAM 8260 if field screening indicates the potential presence of this contaminant of concern. Laboratory analysis shall be on a 24-hour turnaround to minimize the duration the excavation remains open.

The top two feet of excavated material will be removed and stockpiled first; material between two and eight feet will be stockpiled separately. If a feature of potential concern is identified (and soil sampled), decisions regarding backfill will be made in consultation with

DTSC following receipt of soil sample analysis. If no feature of potential concern is identified the excavated material will be replaced in the horizon from which it was derived. The upper two feet will be replaced in the upper two feet and re-excavated at the time of the site-wide removal action.

The excavation will be small and disturbance minimal but out of abundance of caution and in appreciation of community concerns, the working area will be wetted with water (sprayed) before and during excavation to minimize the production of dust. The retained consultant overseeing and sampling the excavation will monitor dust levels with a hand-held dust meter during soil movement activity. DTSC will be given advance notice of the date of excavation and will be kept in close contact throughout the evaluative process. A Technical Memo describing methods and findings complete with analytical results, photographs and any other information as appropriate shall be prepared following this undertaking and submitted to DTSC.

6.3 Control Measures/Environmental Quality Monitoring During Excavation

The remediation contractor shall deploy all appropriate control measures (including but not limited to measures associated with dust and stormwater control) prior to the commencement of the removal action. These measures and methodologies for monitoring and recordkeeping during site work shall be detailed in the pre-implementation submittals described above. Implementation of monitoring and controls during site work will be documented and summarized in post removal action closure documentation.

6.4 Field Variances

Should unanticipated circumstances be encountered in the field that warrant a pause in site activities such as unanticipated soil conditions (discoloration, odor) or the discovery of buried objects, TNC and DTSC will be immediately notified and an appropriate plan of action devised prior to the commencement of additional site work.

7 SAMPLING AND ANALYSIS PLAN

7.1 Confirmation Sampling of Excavated Areas

As described in Section 3 of this RAW, the vertical definition of the contaminated soil horizon established by the Citadel data-gap sampling satisfies the requirement for post-removal confirmation sampling. No additional confirmation sampling shall be conducted.

7.2 Profiling for Off-Site Disposal

The selected removal action implementation contractor shall determine what additional analysis, if any, of soil targeted for removal and off-site disposal is required for disposal facility acceptance.

8 OTHER PLANS

Health and safety plans, construction specifications and other related documents will be prepared by the construction contractor after the bid for that undertaking is awarded.

9 PUBLIC PARTICIPATION AND CEQA

Community engagement has been robust throughout the project planning process. Meetings and presentations addressing all aspects of the Demonstration Project are ongoing, and a formal meeting at the beginning of the 30-day comment period will be scheduled following DTSC review and conditional approval of this RAW. The meeting will be noticed as required; targeted public outreach will also be conducted to ensure that all stakeholders know of the comment period and attend the public meeting if interested.

State Parks is the lead agency for the CEQA review of the Demonstration Project itself, inclusive of the aspect that evaluates RAW implementation. DTSC will be engaged during preparation of the Hazardous Substances portion of the CEQA Initial Study and will have an opportunity to review a draft of the CEQA document in its entirety prior to final publication.

The public comment period for CEQA will occur contemporaneously with the comment period for the RAW. The CEQA aspect will be included in the public notices for the combined meeting and review period.

10 REFERENCES

DTSC, 2022. HUMAN HEALTH RISK ASSESSMENT (HHRA) NOTE NUMBER 4: Guidance for Screening Level Human Health Risk Assessments

Amicus, 2021. Workplan for Data Gap Sampling, TNC Demonstration Project, Los Angeles, CA.

The Nature Conservancy, 2018. LOS ANGELES RIVER: STORMWATER MANAGEMENT AND HABITAT ENHANCEMENT CONCEPTUAL DESIGNS

Weston, 2020. Final Analysis of Brownfield Cleanup Alternatives.

Weston, 2020. Final Phase I/II Investigation Targeted Brownfield Assessment Report, 2780 West Casitas Avenue, Los Angeles, CA

Leighton, 2015. Site Investigation Report, Former Taylor Yard Parcel G-1.

Leighton, 2014. Site Investigation Workplan, Former Taylor Yard Parcel G-1 (Bow Tie Parcel), 2800 Kerr Street, Los Angeles, CA

CDM, 2011. Revised Feasibility Study, Taylor Yard Parcel G-2

USEPA, 2008. Focused Feasibility Study North Hollywood Operable Unit San Fernando Valley Area 1 Superfund Site Los Angeles County, California

11 AFFIRMATION AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

This Removal Action Workplan has been prepared by the undersigned:

Markus B. Niebanck, PG
Principal

<u>ATTACHMENTS</u>

TABLE – COMPARISON OF REMOVAL ACTION ALTERNATIVES
FIGURES

<u>APPENDICES</u>

A – AERIAL PHOTOGRAPHS
B – CITADEL DATA GAP SAMPLING REPORT
C – LEIGHTON AND WESTON DATA TABLES

TABLE

COMPARISON OF REMOVAL ACTION ALTERNATIVES

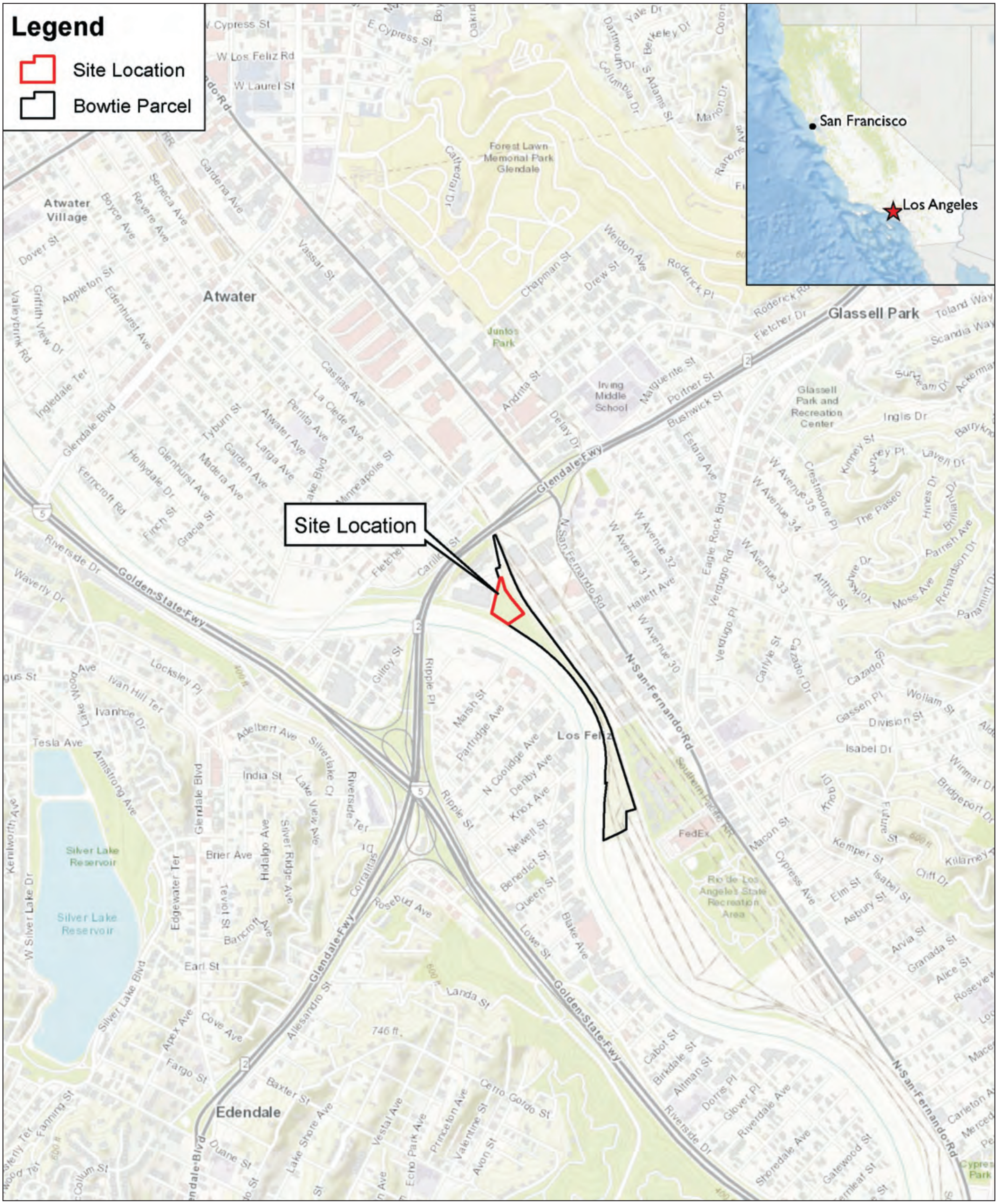
amicus

Table 1
The Nature Conservancy Demonstration Project, Taylor Yard, Bowtie Parcel
Removal Action Workplan - Comparison of Removal Action Alternatives

	No Action	In-situ phytoremediation	Excavation and relocation to G-2	Excavation, transport, disposal
Threshold Criteria				
1. Overall protection of human health and environment	Not protective	Protective	Protective	Protective
2. Compliance with ARARs	Not compliant	Compliant	Compliant	Compliant
Primary Balancing Criteria				
3. Long-term effectiveness and permanence	Not effective	Effective	Effective	Effective
4. Reduction of toxicity, mobility or volume	None	Effective	Effective on project property, though requires long-term management on property to which material would be relocated	Effective
5. Short-term effectiveness	Not effective	Remedy requires long time-frame for protectivity	Effective	Effective
6. Implementability	Readily implentable	Implementable, though requires maintenance until acceptable reduction in contaminant concentration	Implentable, though with multiple party coordination and planning	Readily implementable
7. Cost	No cash cost	Comparable to excavation and relocation	Likely slightly less than transport and off-site disposal	Total cost approximately $1.7M
Modifying Criteria				
8. State acceptance	Not acceptable	Potentially acceptable	Potentially acceptable	Acceptable
9. Community acceptance *	Not acceptable	Generally acceptable	Less acceptable	Preferred

* Community perspective regarding acceptability of remedial options has been recorded over the course of numerous Neighborhood Council and other community meetings.
Additional input will be recorded during the comment period for this RAW.

FIGURES



Base figure from Weston TBA

Figure 1 - Site Location

The Nature Conservancy Demonstration Project
Removal Action Workplan

March 15, 2023

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BOWTIE PROJECT

WETLAND & PATH ILLUSTRATIVE

BlueGreen CONSULTING

Figure 2 - Demonstration Project Conceptual Design

The Nature Conservancy Demonstration Project
Removal Action Workplan

March 15, 2023

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Revised boundary in red dashed line. Setback from access road is approximately 15 feet.

Figure 3 - Concept Design and Footprint

The Nature Conservancy Demonstration Project
Taylor Yard Bowtie Parcel, Los Angeles, CA

March 15, 2023

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Photograph 1 - View north along eastern project boundary.

Photograph 2 - View west across project footprint towards LA River.

Figure 4 - Site Photographs

The Nature Conservancy Demonstration Project
Removal Action Workplan

March 15, 2023

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Photograph 3 - View of area between project boundary and top of LA River wall.

Photograph 4 - Maintenance road; project boundary behind fence on left.

Figure 5 - Site Photographs

The Nature Conservancy Demonstration Project
Removal Action Workplan

March 15, 2023

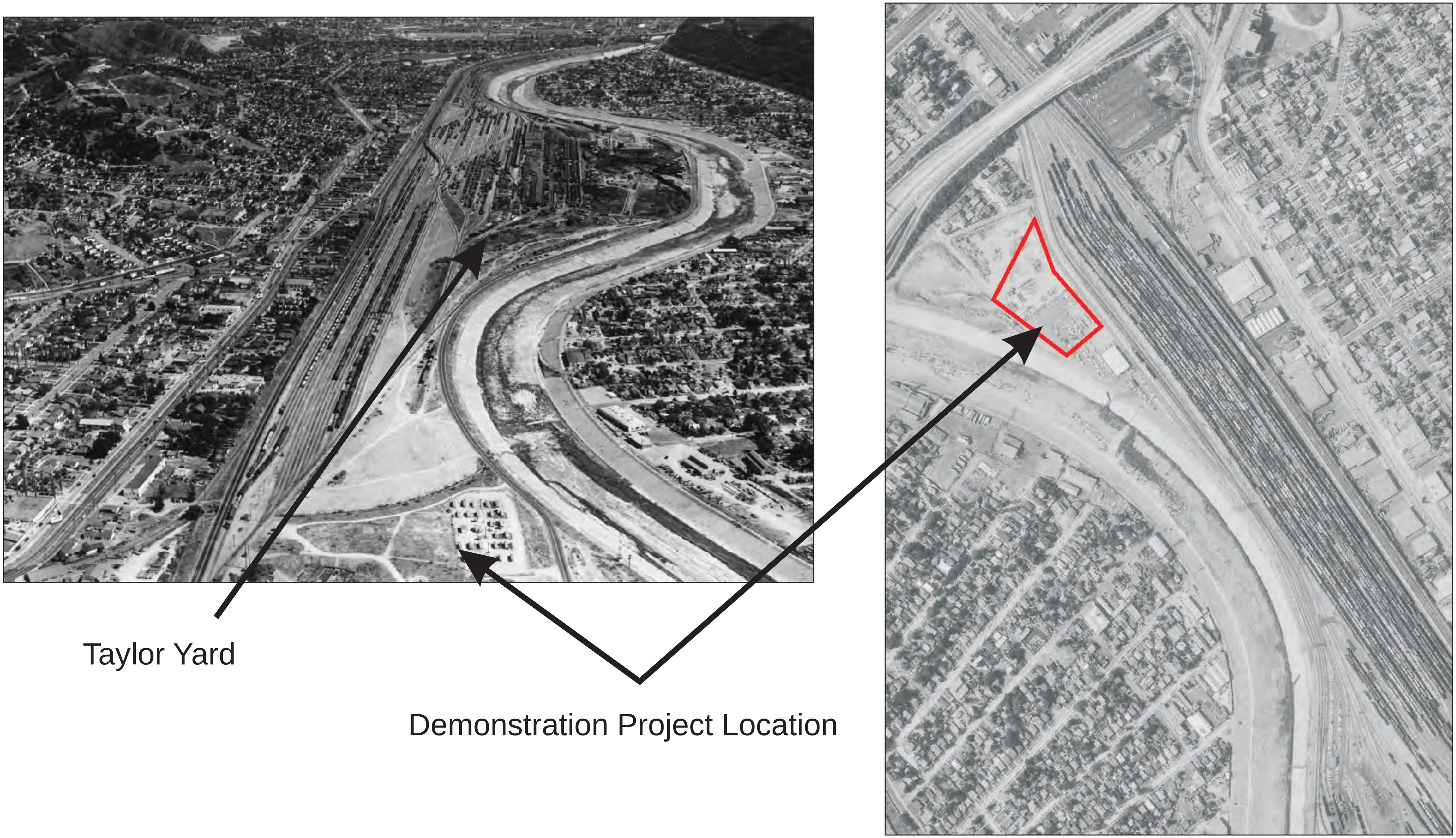

Figure 6 - Taylor Yard Features and Demonstration Project Location

The Nature Conservancy Demonstration Project
Removal Action Workplan

March 15, 2023

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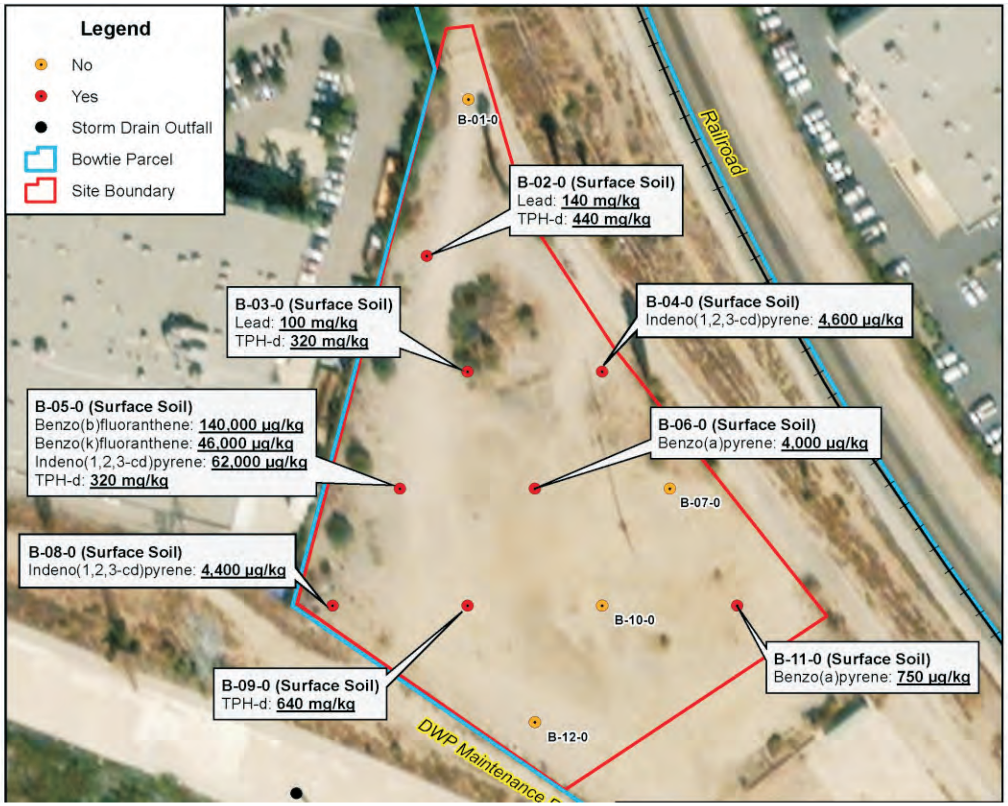

Reference - Weston 2020 TBA soil samples with cleanup goal exceedances

Approximate dimensions of 2.0-foot shallow soil removal area

Tentative soil stockpile area (concrete pad; if needed)

Figure 7 - Shallow Soil Removal Areas

The Nature Conservancy Demonstration Project
Taylor Yard Bowtie Parcel, Los Angeles, CA

March 15, 2023

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APPENDIX A – AERIAL PHOTOGRAPHS

INQUIRY #: 5766647.11

YEAR: 1981

= 500'

N

EDR

INQUIRY #: 5766647.11

YEAR: 1938

= 500'

N

EDR

INQUIRY #: 5766647.11

YEAR: 1928

= 500'

N

EDR

INQUIRY #: 5766647.11

YEAR: 1923

= 500'

N

EDR

APPENDIX B – CITADEL DATA GAP SAMPLING REPORT

amicus

April 15, 2022

Sarai Jimenez
External Affairs Outreach Coordinator
THE NATURE CONSERVANCY
Los Angeles Office
Union Bank Plaza
445 S. Figueroa Street, #1950
Los Angeles, California 90071

Re: CITADEL Project No. 1954.1001.0
Soil Sampling Report
The Nature Conservancy Demonstration Project
Taylor Yard Parcel G-1
Los Angeles, California 90039
DTSC Site Code 301630-11

Dear Ms. Jimenez:

Citadel EHS (Citadel) is pleased to provide you with this Soil Sampling Report for the above-referenced location. The Soil Sampling activities were performed in accordance with the Sampling Work Plan approved by the California Department of Toxic Substances Control (DTSC) in their letter dated November 30, 2021.

If, after your review, you have any questions or require additional information, please do not hesitate to telephone me at (818) 246-2707.

Sincerely,
CITADEL EHS

Nalinna Rasu, CHMM, LEED AP
Principal, Engineering and Environmental Sciences

Enclosure

CITADEL EHS
assess • resolve • strengthen

Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

Soil Sampling Report

April 15, 2022

Citadel Project Number 1954.1001.0

The Nature Conservancy Demonstration Project
Taylor Yard Parcel G-1
Los Angeles, California 90039
DTSC Site Code 301630-11

www.CitadelEHS.com

Table of Contents

1.0 INTRODUCTION

Citadel EHS (Citadel) prepared this Soil Sampling Report for work completed at the Nature Conservancy Demonstration Project located at Taylor Yard Parcel G-1 in the City of Los Angeles, California (Site). A Site Location Map is presented in Figure 1. Citadel understands from the Client that the Site is being redeveloped with a storm drain to divert stormwater into a series of vaults designed to remove trash, debris, and suspended solids.

1.1 OBJECTIVE

The objective of the soil sampling was to fill a data gap left from previous soil sampling events and site assessments and to inform the design of the recommended remedial alternative.

According to a Final Work Plan for Data Gap Soil Sampling, dated October 25, 2021, the work plan indicated that the Soil Sampling should address, but may not be limited to, the identification of the lower bound of the shallow soil containing the following RECs:

- Lead;
- Polycyclic hydrocarbons; and,
- Diesel-range hydrocarbons.

A copy of the Final Work Plan can be found in Appendix A.

1.2 SCOPE OF WORK

Citadel advanced eight borings across the Site to approximately five feet below ground surface (bgs) using a power auger and a hand auger. Please refer to Figure 2 of the Boring Location Map showing the approximate sampling locations.

Soil samples were collected in laboratory supplied four-ounce jars at approximately two feet, four feet, and five feet bgs in each boring location. Borings were advanced to the desired sample depths using the power auger. Loose surface soil was then removed using the hand auger and the soil sample was collected from the undisturbed soil at each depth. Prior to and after each soil sample was collected, the hand auger was decontaminated using a three-bucket wash, pre-rinse, and final rinse decontamination process.

2.0 PRE-FIELD ACTIVITIES

A site-specific health and safety plan (HASP) was prepared prior to on-site activities. This HASP identified existing and potential hazards for workers at the Site during boring and sample collection activities. A copy of the HASP is included in Appendix B.

A Standard Operating Procedure (SOP) was also prepared to describe the sampling procedures, equipment to be utilized, decontamination procedures, and site management. A copy of the SOP is included in Appendix C.

3.0 SOIL SAMPLING ACTIVITIES

On Wednesday, March 9, and Thursday, March 10, 2022, Citadel representatives Tim Lambert and James Wood performed soil sampling activities at the Site. Prior to any sampling activities, Citadel reviewed the Health and Safety Plan, discussed measures to control dust emissions, and developed a site sampling plan. A pump sprayer filled with water was kept on site to be for control of any visible dust emissions.

On Wednesday, March 9, Citadel advanced borings B-02, B-03, B-05, B-08, and B-09 to the desired sampling depths using a power auger. Loose surface soil was then removed from the borings using the hand auger and soil samples were collected from the undisturbed soil at each desired depth. Prior to and after each soil sample was collected, the hand auger was decontaminated using a three-bucket wash, pre-rinse, and final rinse decontamination process. All borings on the first day were advanced to their full desired depths with the exception of B-05, which experienced refusal at 4.5 feet where a sample was collected; and B-09, which experienced refusal at 3.5 feet due to a very large cobble stone obstructing the power auger. During on-site activities, a DTSC representative, Pete, arrived on site to observe sampling procedures. He was present between 9:30am-11:00am and observed work at B-08 and B-09. No issues were reported during the site visit.

On Thursday, March 10, Citadel resumed sampling activities at the remaining boring locations including B-09, where full sampling depth was ultimately reached. Borings B-04, B-06, B-09, and B-11 were completed. A total of three quality control (QC) samples were collected. QC samples were collected at B-04 at two feet bgs, B-09 at four feet bgs, and at B-11 at two feet bgs. All borings were backfilled with hydrated bentonite.

Upon completion of on-site sampling activities for each day, the soil generated was collected into five-gallon buckets and transferred into waste drums for eventual off-site disposal pending laboratory analysis. The decontamination water from each day was also transferred into a waste drum pending laboratory analysis. Representative samples were collected from each of the waste drums at the completion of all soil sampling activities. Citadel’s field notes and a photo log of on-site activities can be found in Appendices D and E, respectively.

All samples were transported under proper Chain-of-Custody (COC) protocols to American Scientific Laboratory (ASL), an Environmental Laboratory Accreditation Program (ELAP) state-certified laboratory. The soil samples and quality control samples from the borings were analyzed for lead by EPA Method 6010B, polycyclic aromatic hydrocarbons (PAH) by EPA Method 8270C selective ionization method (SIM), and diesel-range hydrocarbons (TPHd) by EPA Method 8015B. Samples from the waste soil drums were analyzed as a composite for Title 22 Metals by EPA Methods 6010B/7471A and Total Petroleum Hydrocarbons (TPH) full range by EPA Method 8015B; and as discrete samples for VOCs by EPA 8260B. A sample of the decontamination water was also collected and analyzed for Title 22 Metals by EPA Methods 6010B/7471A, TPH full range by EPA Method 8015B, and VOCs by EPA 8260B.

4.0 LABORATORY RESULTS

- PAHs were detected above the reporting limits in several of the samples analyzed. PAHS detected include acenaphthylene, anthracene, benzo(a)anthracene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and

pyrene. All PAHs detected were below their respective Environmental Screening Levels[1] (ESLs). Refer to Table 1 for a summary of the PAH laboratory results.
- TPHd and oil-range hydrocarbons (TPHo) was detected in sample B-02-4 at concentrations of 37.9 mg/kg and 50.0 mg/kg, respectively, below their respective environmental screening levels (ESL) of 260 mg/kg and 12,000 mg/kg. TPH was not detected in any of the other samples analyzed. Refer to Table 2 for a summary of the TPHd laboratory results.
- Lead was detected in all samples ranging from 0.671 mg/kg to 29.5 mg/kg, below the TTLC limit of 1,000 mg/kg. Refer to Table 3 for a summary of the lead laboratory results.

The full laboratory report can be found in Appendix F.

5.0 INVESTIGATIVE DERIVED WASTE

Results from the soil and decontamination waste drums indicate that the wastes can be disposed of as non-hazardous waste. The full laboratory report can be found in Appendix F. The waste drums were picked up on April 1, 2022, by Belshire Environmental Services, Inc. of Foothill Ranch, California, for appropriate disposal. Copies of the waste manifests are still pending, and can be provided at a later date, upon request.

6.0 DISCLAIMER

The services to be performed by Citadel Environmental Services, Inc. ("Citadel"), d.b.a. Citadel EHS, in connection with this Proposal will be performed in accordance with generally and currently accepted engineering practices and principles; provided, however, Citadel will complete such services as directed by the Client and therefore such services will be limited in purpose and scope. The procedures and methodologies to be used by Citadel in its performance of services, and any recommendations as a result thereof, are not intended to meet the requirements under any specific laws or regulatory guidelines unless expressly set forth in this Proposal.

During its performance of the services, Citadel will rely on the information and data provided by or on behalf of Client and will assume all such information and data is correct and complete. Citadel disclaims any inaccuracy in any deliverables provided pursuant to this Proposal as a result of any part or parcel of property to which Citadel was not provided access, or which was concealed, including, but not limited to, wall cavities/chases, ceiling plenums, below floor finishes, crawlspaces, below grade, beneath existing structures, or behind electrical panels.

EXCEPT FOR ANY WARRANTIES EXPRESSLY SET FORTH IN THIS PROPOSAL, CITADEL MAKES NO WARRANTIES HEREUNDER WITH RESPECT THE SERVICES, EXPRESS OR IMPLIED, AND CITADEL HEREBY DISCLAIMS ALL OTHER WARRANTIES.

All testing and remediation methods have reliability limitations and no method nor number of sampling locations can guarantee that a hazard will be discovered if contamination or other evidence of the hazard is not encountered within the performance of the services as authorized. Reliability of testing or remediation varies according to the sampling frequency and other service variables that are selected by Client. Citadel shall not be at fault or liable for any such limitations.

[1] San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Level, 2019

7.0 SIGNATURES

Prepared by:

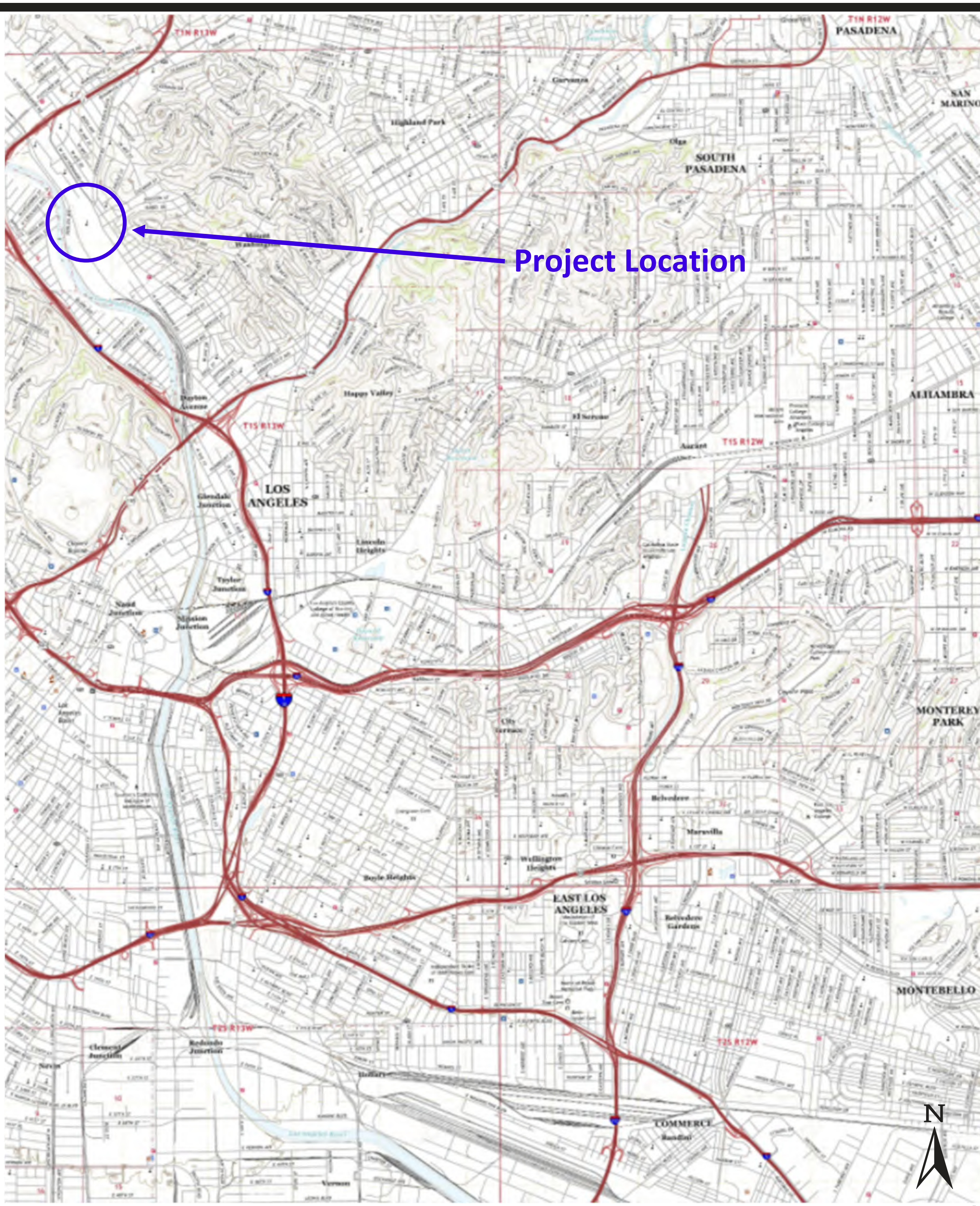
Tim Lambert
Staff Environmental Specialist, Engineering and Environmental Sciences

Reviewed by:

Nalinna Rasu, CHMM, LEED AP
Principal, Engineering and Environmental Sciences

CITADEL EHS
assess resolve strengthen

Figure 1
Site Location Map



Not to Scale

Source: EDR, Los Angeles Quadrangle, 2022, 7.5 Minute Series

CITADEL EHS assess resolve strengthen	The Nature Conservancy Taylor Yard Parcel G-1 Los Angeles, California	Figure 1	PROJECT NO.: 1954.1001.0 DATE: APRIL 2022
		Site Location Map	

CITADEL EHS
assess resolve strengthen

Figure 2
Site Map with Boring Locations

Site Boundary

Boring Locations

N

Not to Scale

Source: EDR, Los Angeles Quadrangle, 2022, 7.5 Minute Series

CITADEL EHS assess resolve strengthen	**The Nature Conservancy** Taylor Yard Parcel G-1 Los Angeles, California	Figure 2	PROJECT NO.: 1954.1001.0 DATE: APRIL 2022
		Boring Location Map	

Tables

Table 1
PAHs in Soil
Taylor Yard Parcel G-1
Los Angeles, California

Sample ID	Date Sampled	Polynuclear Aromatic Hydrocarbons									
		EPA Method 8270C SIM									
		Acenaphthylene	Anthracene	Benzo(a) anthracene	Chrysene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
		micrograms per kilogram (µg/kg)									
B-02-2	3/9/2022	**19.3**	**21.8**	**87.5**	**93.3**	**128**	<5.0	**23.5**	<5.0	**122**	**166**
B-02-4	3/9/2022	<15.0	<15.0	**22.0**	<15.0	**23.0**	<15.0	<15.0	**22.5**	<15.0	**29.5**
B-02-5	3/9/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-03-2	3/9/2022	<10.0	**10.3**	**33.0**	**21.3**	**58.0**	<10.0	<10.0	<10.0	**34.0**	**60.0**
B-03-4	3/9/2022	<15.0	<15.0	<15.0	<15.0	**23.0**	<15.0	<15.0	<15.0	**15.5**	**29.5**
B-03-5	3/9/2022	<5.0	<5.0	<5.0	<5.0	**8.83**	<5.0	<5.0	<5.0	**5.17**	**10.2**
B-04-2	3/10/2022	<10.0	<10.0	**11.7**	<10.0	**11.0**	<10.0	<10.0	<10.0	<10.0	**12.7**
B-04-2-Dup	3/10/2022	<10.0	<10.0	**10.3**	<10.0	**13.0**	**13.0**	<10.0	<10.0	<10.0	**14.0**
B-04-4	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-04-5	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-05-2	3/9/2022	<5.0	<5.0	**14.2**	**8.33**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-05-4	3/9/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-05-4.5	3/9/2022	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	**15.0**
B-06-2	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-06-4	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-06-5	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-08-2	3/9/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-08-4	3/9/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-08-5	3/9/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-09-2	3/9/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-09-4	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-09-4-Dup	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-09-5	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-11-2	3/10/2022	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0
B-11-2-Dup	3/10/2022	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0
B-11-4	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-11-5	3/10/2022	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ESL - Residential Soil		--	18,000,000	1,100	110,000	2,400,000	2,400,000	1,100	3,800	--	1,800,000
ESL - Commercial/Industrial Soil		--	230,000,000	20,000	2,100,000	30,000,000	30,000,000	21000	17000	--	23,000,000

Notes:
-- = No regulatory criterion
< = Analyte not detected at or above the indicated method reporting limit for EPA Method 8270C
ESL = Environmental Screening Levels (SFBRWQCB, 2019)
Bold = Analyte detected above the Reporting Limit

Table 2
Diesel in Soil
Taylor Yard Parcel G-1
Los Angeles, California

Sample ID	Date Sampled	Total Petroleum Hydrocarbon EPA Method 8015B Diesel C13-C22 (milligrams per kilogram (mg/kg))	Total Petroleum Hydrocarbon EPA Method 8015B Motor Oil C23-C40 (milligrams per kilogram (mg/kg))
B-02-2	3/9/2022	<10.0	<50.0
B-02-4	3/9/2022	**37.9**	**50.0**
B-02-5	3/9/2022	<10.0	<50.0
B-03-2	3/9/2022	<10.0	<50.0
B-03-4	3/9/2022	<10.0	<50.0
B-03-5	3/9/2022	<10.0	<50.0
B-04-2	3/10/2022	<10.0	<50.0
B-04-2-Dup	3/10/2022	<10.0	<50.0
B-04-4	3/10/2022	<10.0	<50.0
B-04-5	3/10/2022	<10.0	<50.0
B-05-2	3/9/2022	<10.0	<50.0
B-05-4	3/9/2022	<10.0	<50.0
B-05-4.5	3/9/2022	<10.0	<50.0
B-06-2	3/10/2022	<10.0	<50.0
B-06-4	3/10/2022	<10.0	<50.0
B-06-5	3/10/2022	<10.0	<50.0
B-08-2	3/9/2022	<10.0	<50.0
B-08-4	3/9/2022	<10.0	<50.0
B-08-5	3/9/2022	<10.0	<50.0
B-09-2	3/9/2022	<10.0	<50.0
B-09-4	3/10/2022	<10.0	<50.0
B-09-4-Dup	3/10/2022	<10.0	<50.0
B-09-5	3/10/2022	<10.0	<50.0
B-11-2	3/10/2022	<10.0	<50.0
B-11-2-Dup	3/10/2022	<10.0	<50.0
B-11-4	3/10/2022	<10.0	<50.0
B-11-5	3/10/2022	<10.0	<50.0
ESL - Residential Soil		260	12,000
ESL - Commercial/Industrial Soil		1,200	180,000

Notes:

< = Analyte not detected at or above the indicated method detection limit for EPA Method 8015B

ESL = Environmental Screening Levels (SFBRWQCB, 2019)

Bold = Analyte detected above the Reporting Limit

(green)	Exceeds Residential ESLs
(orange)	Exceeds Residential and Commercial ESLs

Table 3
Lead in Soil
Taylor Yard Parcel G-1
Los Angeles, California

Sample ID	Date Sampled	Title 22 Metals EPA Method 6010B/7471
		Lead
		milligrams per kilogram (mg/kg)
B-02-2	3/9/2022	**13.4**
B-02-4	3/9/2022	**17.8**
B-02-5	3/9/2022	**6.21**
B-03-2	3/9/2022	**21.4**
B-03-4	3/9/2022	**6.33**
B-03-5	3/9/2022	**6.66**
B-04-2	3/10/2022	**3.72**
B-04-2-Dup	3/10/2022	**9.27**
B-04-4	3/10/2022	**29.5**
B-04-5	3/10/2022	**6.33**
B-05-2	3/9/2022	**8.22**
B-05-4	3/9/2022	**5.25**
B-05-4.5	3/9/2022	**12**
B-06-2	3/10/2022	**1.56**
B-06-4	3/10/2022	**3.71**
B-06-5	3/10/2022	**2.91**
B-08-2	3/9/2022	**1.7**
B-08-4	3/9/2022	**1.9**
B-08-5	3/9/2022	**1.66**
B-09-2	3/9/2022	**0.724**
B-09-4	3/10/2022	**3.61**
B-09-4-Dup	3/10/2022	**1.94**
B-09-5	3/10/2022	**0.671**
B-11-2	3/10/2022	**16.3**
B-11-2-Dup	3/10/2022	**16.9**
B-11-4	3/10/2022	**1.01**
B-11-5	3/10/2022	**2.93**
ESL - Residential Soil		82[1]
ESL - Commercial/Industrial Soil		380[1]

Notes:

ESL = Environmental Screening Levels (SFBRWQCB, 2019)

Bold = Analyte detected above the Reporting Limit

1 - Carcinogenic Target Risk = 1E-06

CITADEL EHS
assess - resolve - strengthen

CITADEL EHS
assess resolve strengthen

Appendix A
Final Work Plan for Data Gap Soil Sampling, Dated October 25, 2021

amicus
Strategic Environmental Consulting

580 Second Street, Suite 260
Oakland, CA 94607
510.693.1241
markus@amicusenv.com

October 25, 2021

Jessy Fierro
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, CA 91311

Re: The Nature Conservancy Demonstration Project
Taylor Yard Parcel G-1, Los Angeles, CA
Workplan for Data Gap Soil Sampling

Dear Jessy,

Pursuant to our recent conversations, this letter transmits a Workplan to conduct data gap soil sampling at the above-referenced project location. This Workplan:

- Describes site history and investigative work to date
- Describes the contemplated redevelopment project
- Identifies data that must be collected to supplement existing information in order to inform the remediation decision-making process

A request for implementation proposals from qualified local vendors will be prepared following approval of this Workplan by DTSC. The selected contractor will submit the necessary Health & Safety Plan and sampling and analytical protocol documentation for DTSC review prior to commencement of work.

Background

The project is located on the northern end of the G-1 Parcel of Taylor Yard (Figure 1). Historic development and use of the project property and neighboring land is documented in technical reports available on the DTSC Envirostor portal and is most recently described in the June 2020 Weston Final Phase I/II Investigation Targeted Brownfield Assessment (TBA) report. The area to be occupied by The Nature Conservancy (TNC) Demonstration Project was once owned by Southern Pacific Railroad Company, then by the Union Pacific Transportation Company (UPRR), ultimately being acquired by the California Department of Parks and Recreation (State Parks) in 2003 as part of the larger Bowtie G-1 18-acre transaction.

As discussed by Weston in their TBA, this portion of Taylor Yard remained structurally undeveloped for the span of years the yard was active. No buildings, tracks, or any other feature associated with intensive rail use was identified in the available public record. Aerial photographs depict historic project area uses as largely for parking, materials storage, and a contractor's yard.

TNC Demonstration Project Description

A priority of the TNC Urban Program is working to demonstrate the utility of incorporating nature and ecology into the built urban environment. In Los Angeles, TNC has recently focused on natural infrastructure – infrastructure based on natural systems and processes – to transform aspects of urban life. The TNC Demonstration Project at Taylor Yard is part of this undertaking, with its objective being the construction of a natural feature to improve the quality of urban stormwater as it flows from the surrounding community to the Los Angeles River. The Taylor Yard Bowtie G-1 parcel was one of ten sites studied by TNC as they evaluated optimal locations for their project.

Figure 2 shows the boundaries and concept plan for the Demonstration Project. It should be noted that the northern boundary of the project area has been slightly modified since completion of the TBA.

As depicted, the project daylights the storm drain near the northern project area boundary and diverts stormwater to a series of vaults designed to remove trash, debris and suspended solids, then to a constructed arroyo planted with native vegetation selected for its ability to thrive in the wet and dry seasons of the Los Angeles environment. The project is being designed to accommodate the 85th percentile storm event; stormwater will be directed to the storm drain during times of precipitation in excess of this threshold.

Site Environmental Conditions and Data Gaps

Environmental Conditions

Episodes of site characterization on and near the TNC Demonstration Project area have been completed by Leighton and Associates (Leighton) and Weston Solutions (Weston). Leighton's 2015 sampling points were distributed across the entire G-1 parcel; seven sampling locations were near the Demonstration Project footprint but none were actually advanced on the project property itself. Weston's work, conducted under a USEPA Brownfield Grant, focused exclusively on the Demonstration Project area; their findings are documented in the 2020 TBA report.

Weston collected only soil samples; no boring was advanced deeper than 20 feet below ground surface (depth to groundwater is approximately 30 feet beneath the Demonstration Project footprint). Leighton also did not collect samples of groundwater from their borings advanced near the project property. They did, however, collect soil vapor samples from borings B-1 and B-3 located on G-1 property bordering the Demonstration Project footprint to the north. Low concentrations of PCE were detected in the samples collected in both locations with values increasing with depth. VOC concentration and signature was consistent in vapor probes advanced across the length of the Bowtie parcel. Leighton concluded that the pattern of VOC in soil vapor is indicative of volatilization of low concentrations of VOC from underlying groundwater associated with known regional VOC contamination.

The Weston TBA describes the detection of hydrocarbon compounds and lead in shallow soil at concentrations exceeding natural background levels and, in discrete samples, at concentrations exceeding regulatory agency (RWQCB and EPA) screening levels.

Concentrations and distribution of hydrocarbons and lead are consistent with deposition from an aerial source, likely by-products of fuel combustion (diesel and leaded gasoline by highway traffic, diesel and coal by railroad engines).

Tables and figures from the Weston report showing specific contaminant concentrations and distribution are presented in Attachment 2 of this letter Workplan. As depicted on Weston Figure 4 in this attachment, concentrations of poly-cyclic aromatic hydrocarbons (PAH) and diesel-range hydrocarbons were measured above applicable residential screening levels in surficial samples collected across the site. Lead was detected at concentrations above screening levels in two surface soil samples, B-2 and B-3, collected in the northern portion of the Demonstration Project area.

Data Gaps

Weston collected samples of surficial soil and subterranean sediment samples at depths of five, 10, 15 and 20 feet below ground surface (bgs) from each of 12 investigative borings advanced across the property. Hydrocarbons and lead were only detected in the surficial soil samples; the samples at five feet bgs and deeper were shown to contain no concentrations of contaminants of concern.

In their July 2020 Analysis of Brownfield Cleanup Alternatives (ABCA) report, Weston identifies excavation and removal or sequestration of shallow contaminated soil as the most appropriate remedial methodology. In the ABCA, Weston acknowledges that remedial planning requires development of an understanding of a more precise lower boundary of the affected interval.

Sampling and Analysis Plan

Data Quality Objectives

As described above, the sampling activity proposed in this Workplan is designed to fill a data gap left from the prior assessment and inform the design of the recommended remedial alternative. DTSC has acknowledged that if the interval is defined with sufficient certainty through sampling and analysis this data will also suffice as confirmation sampling in advance of a removal action. Following interval definition, no additional sampling would be required during excavation and grading unless an unanticipated condition is identified during site work.

The data quality objectives of the proposed sampling are therefore twofold:

- The production of information that will enable the definitive identification of the lower bound of the shallow soil interval containing lead and hydrocarbon contamination requiring removal or segregation.
- The production of a data set that may be also relied upon as confirmation of the completed excavation bottom, provided that said bottom is at or below the bottom of the affected interval as defined by this sampling.

Soil Sampling
A test pit shall be advanced using a small backhoe at the location of each Weston boring with positive shallow contaminant detections (Figure 3). Samples will be collected at two, four and five feet bgs at each location. Test pits are preferred to borings advanced by a drilling rig as the interval being examined is shallow, and test pits allow the more thorough examination of the physical constitution of the shallow interval.

The interior walls and bottom of each pit will be photo-documented and a pit log drafted for incorporation into data transmittals and future reports.

Spoils from each pit will be stockpiled on and covered by a durable plastic liner and incorporated with shallow material removed by project grading for off-site disposal. Each test excavation will be backfilled with imported material derived from a known source certified as free of contamination (quarry, etc.). Excavation locations will be staked and identified w GPS coordinates; as project grading is anticipated to follow in the months after test excavation sampling such means of identification are expected to remain visible for this short duration.

A Health and Safety Plan and a Standard Operating Procedure (SOP) describing sampling procedures, equipment, decontamination and site management will be submitted to DTSC by the sampling contractor for review and approval prior to the commencement of work.

Sample Analysis
Soil samples will be transferred to laboratory-provided containers then shipped under chain-of-custody control to the accredited project laboratory for analysis using the following methods:

Lead – EPA Method (EPAM) 6010B
Polycyclic hydrocarbons – EPAM 8270SIM
Diesel-range hydrocarbons – EPAM 8015B

The analytical laboratory shall be instructed to ensure instrument detection limits below applicable (DTSC, EPA, RWQCB) environmental screening levels.

Reporting
The results of data-gap sampling will be provided to DTSC in a Technical Memo then formally incorporated into the Removal Action Workplan (RAW).

Public Notice
TNC is committed to transparency around all aspects of its work on the Demonstration Project. As such, TNC shall notify community members by way of an existing outreach network of the planned sampling as well as a description of progress on plans for site mitigation. DTSC will be notified of the content and schedule for this upcoming community meeting during outreach planning.

This concludes the Workplan for Data Gap Soil Sampling. We look forward to working with you on this and future phases of the TNC Demonstration Project.

Most sincerely,

Markus B. Niebanck, PG
Principal

Attachment 1 - Figures

Figure 1 – Site Location Map
Figure 2 – Demonstration Project Concept Plan
Figure 3 – Site Plan and Boring Location

Attachment 2 – Weston Data Tables and Figures

ATTACHMENT 1 - FIGURES

Base figure from Weston TBA

Figure 1 - Site Location

The Nature Conservancy Demonstration Project
Taylor Yard Bowtie Parcel, Los Angeles, CA

July 21, 2021

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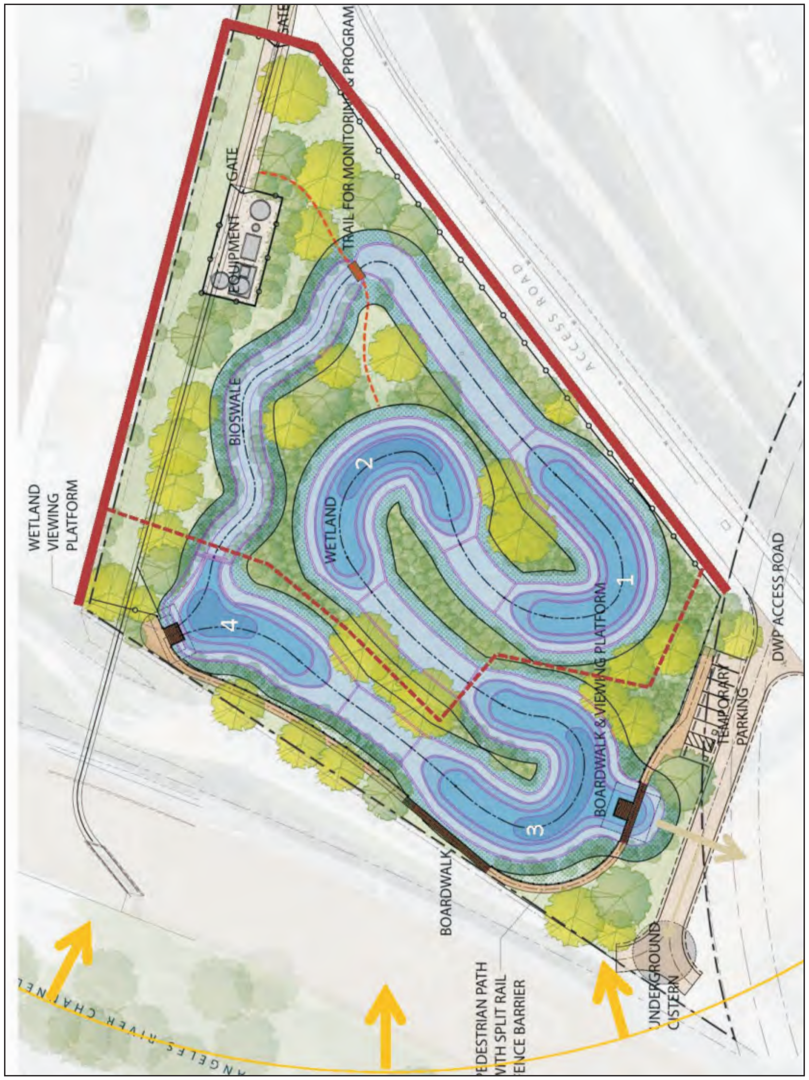

Revised boundary in red dashed line. Setback from access road is approximately 15 feet.

Figure 2

Draft Demonstration Project Design Boundary
Taylor Yard Bowtie Parcel, Los Angeles, CA

July 21, 2021

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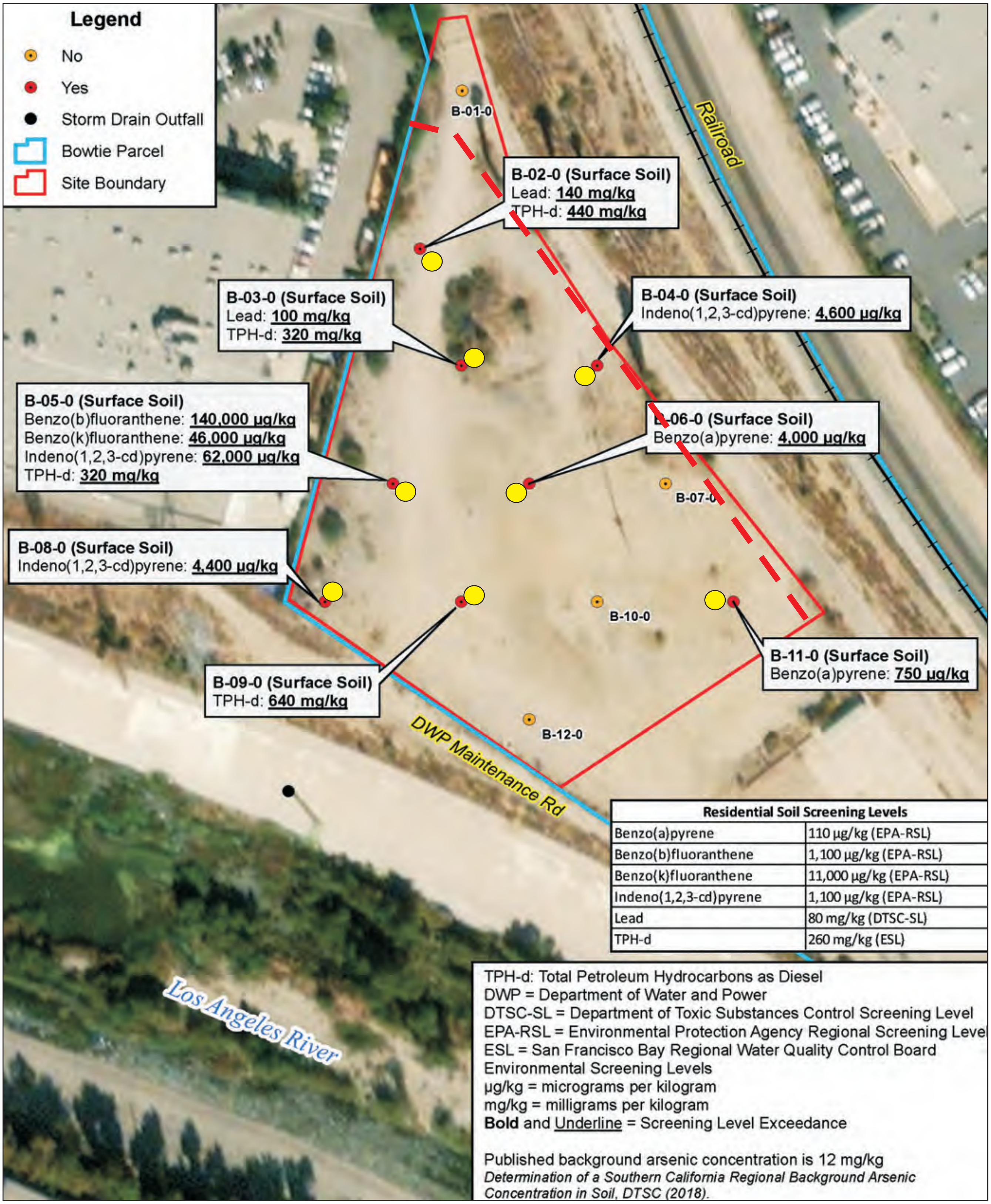

Base figure from 2020 Weston TBA

Proposed data-gap sample location

Figure 3 - Proposed Data-Gap Sample Locations

The Nature Conservancy Demonstration Project
Taylor Yard Bowtie Parcel, Los Angeles, CA

July 21, 2021

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ATTACHMENT 2 – WESTON DATA TABLES AND FIGURES

Table 1
Summary of Metals
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID			B-01-0	B-13-0 Duplicate of B-01-0	B-01-5	B-01-20	B-02-0	B-02-5	B-02-20	B-03-0	B-03-5	B-14-5 Duplicate of B-03-5	B-03-20	B-04-0	B-04-5	B-04-20
Sample Date			12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019
Sample Depth (feet below ground surface)			0.5	0.5	5	20	0.5	5	20	0.5	5	5	20	0.5	5	20
Analyte	**EPA RSL Residential (mg/kg)**	**DTSC-SL Residential (mg/kg)**	**Metals - Soil (mg/kg)**													
Antimony	31	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2) J	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Arsenic	0.68	0.11	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	**4.2**	ND (<2)	ND (<2)	ND (<2)	**4.1**	ND (<2)	ND (<2)
Barium	15,000	--	60	59	130	60	220	170	89	95	48	58	110	130	73	56
Beryllium	160	16	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	1.8	0.55	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Cadmium	71	--	0.55	0.86	ND (<0.5)	ND (<0.5)	0.53	0.82	ND (<0.5)	1	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Chromium	12,000	--	110	170	15	9.4	24	21	12	18	8	8.3	15	13	11	7.8
Chromium(VI)	0.3	0.3	ND (<1) J	ND (<1)	--	--	ND (<1)	ND (<1)	--	--	--	--	--	--	--	--
Cobalt	23	--	6.3	6.7	8.3	5.4	6	11	8.6	7.5	4.9	5.6	9.8	8.3	7	4.7
Copper	3,100	--	23	23	15	6.9	58	18	11	230	6.1	6.8	14	18	10	5
Lead	400	80	57	47	14	1.9	**140**	8.5	2.5	**100**	3	2.3	2.9	14	3.6	1.6
Mercury	11	1	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.12	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.12	ND (<0.1)	ND (<0.1)
Molybdenum	390	--	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
Nickel	1,500	820	14 J	8 J	9.8	5.6	12	15	8.3	13	4.6	5.1	9.8	12	6.9	4.2
Selenium	390	--	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)
Silver	390	--	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Thallium	0.78	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Vanadium	390	--	52 J	130 J	30	22	27	47	30	34	22	23	39	33	29	22
Zinc	23,000	--	76	72	86	32	390	59	40	130	25	28	48	58	32	21

Notes:
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
Metals by EPA Method 6010B
Chromium VI by EPA Method 7196A
Mercury by EPA Method 7471A
mg/kg = milligrams per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 1
Summary of Metals
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID			**B-05-0**	**B-05-5**	**B-05-20**	**B-06-0**	**B-06-5**	**B-06-20**	**B-07-0**	**B-07-5**	**B-07-20**	**B-08-0**	**B-08-5**	**B-08-20**
Sample Date			**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)			**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**EPA RSL Residential (mg/kg)**	**DTSC-SL Residential (mg/kg)**	**Metals - Soil (mg/kg)**											
Antimony	31	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2) J	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Arsenic	0.68	0.11	**<u>4.3</u>**	ND (<2)	ND (<2)	**<u>2.2</u>**	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Barium	15,000	--	120	56	35	100	56	49 J	98	59	48	68	58	52
Beryllium	160	16	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Cadmium	71	--	0.59	ND (<0.5)	ND (<0.5)	0.56	ND (<0.5)	ND (<0.5)	1.7	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Chromium	12,000	--	17	9.1	5.6	17	7.6	7.5	17	8.6	5.6	10	9.8	7.6
Chromium(VI)	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	23	--	7.1	5.9	3.5	8.6	5.3	4.7	8.4	5.9	4.5	6.3	5.5	5.4
Copper	3,100	--	120	8.6	ND (<5)	31	6.1	5.9	16	6.3	5.5	11	8.3	5.5
Lead	400	80	39	4.1	3	39	2.7	2.1	11	3.3	4.8	16	6.9	3.5
Mercury	11	1	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.11	ND (<0.1)	ND (<0.1)	0.17	ND (<0.1) J	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)
Molybdenum	390	--	1.2	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	3	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
Nickel	1,500	820	11	5.6	3.1	15	4.4	4	16	5.3	3.4	8.3	5.8	4.5
Selenium	390	--	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)
Silver	390	--	ND (<0.5)	ND (<0.5)	ND (<0.5)	2.4	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Thallium	0.78	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Vanadium	390	--	34	27	15	36	22	20	39	24	21	28	23	21
Zinc	23,000	--	74	32	22	75	25	23	54	29	23	47	34	26

Notes:
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
Metals by EPA Method 6010B
Chromium VI by EPA Method 7196A
Mercury by EPA Method 7471A
mg/kg = milligrams per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 1
Summary of Metals
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID			**B-09-0**	**B-09-5**	**B-10-0**	**B-10-5**	**B-10-20 (Lab ID B-20-20)**	**B-11-0**	**B-11-5**	**B-11-20**	**B-12-0**	**B-12-5**	**B-12-20**
Sample Date			**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)			**0.5**	**5**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**EPA RSL Residential (mg/kg)**	**DTSC-SL Residential (mg/kg)**	**Metals - Soil (mg/kg)**										
Antimony	31	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Arsenic	0.68	0.11	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	**2.4**	ND (<2)	ND (<2)	**2.1**	ND (<2)	ND (<2)
Barium	15,000	--	79	60	120	67	62	120	68	66	84	67	42
Beryllium	160	16	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Cadmium	71	--	ND (<0.5)	ND (<0.5)	0.58	ND (<0.5)	ND (<0.5)	1.2	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Chromium	12,000	--	8.2	7.3	15	8.3	9.8	18	9.3	9.7	8.8	9.6	6.4
Chromium(VI)	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--
Cobalt	23	--	6.9	5	8.1	6	6.6	9	5.8	6.1	7.6	6.2	4.1
Copper	3,100	--	10	7.1	15	8.2	8.1	22	7.9	7.8	17	9.1	ND (<5)
Lead	400	80	6.8	4.7	7.1	2.4	2.2	19	5.4	2.8	17	3.1	2.4
Mercury	11	1	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)
Molybdenum	390	--	ND (<1)	ND (<1)	1.4	ND (<1)	ND (<1)	2.1	ND (<1)	ND (<1)	ND (<1)	1	ND (<1)
Nickel	1,500	820	10	4.7	14	5.8	6.2	17	5.7	5.8	12	5.8	4.3
Selenium	390	--	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)
Silver	390	--	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Thallium	0.78	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Vanadium	390	--	29	20	36	23	26	42	24	25	29	28	19
Zinc	23,000	--	34	27	47	29	29	65	32	28	45	30	21

Notes:
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
Metals by EPA Method 6010B
Chromium VI by EPA Method 7196A
Mercury by EPA Method 7471A
mg/kg = milligrams per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 2
Summary of Total Petroleum Hydrocarbons as Diesel and Motor Oil
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID		**B-01-0**	**B-13-0 Duplicate of B-01-0**	**B-01-5**	**B-01-20**	**B-02-0**	**B-02-5**	**B-02-20**	**B-03-0**	**B-03-5**	**B-14-5 Duplicate of B-03-5**	**B-03-20**	**B-04-0**	**B-04-5**	**B-04-20**
Sample Date		**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**
Sample Depth (feet below ground surface)		**0.5**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**ESL (mg/kg)**	**DROs and MROs - Soil (mg/kg)**													
TPH-d	260	ND (<10)	ND (<10)	38	ND (<10)	**<u>440</u>**	ND (<10)	ND (<10)	**<u>320</u>**	ND (<10)	ND (<10)	ND (<10)	120	ND (<10)	ND (<10)
TPH-mo	12,000	ND (<50)	54	160	ND (<50)	2,000	ND (<50)	ND (<50)	1,300	ND (<50)	ND (<50)	ND (<50)	480	ND (<50)	ND (<50)

Sample ID		**B-05-0**	**B-05-5**	**B-05-20**	**B-06-0**	**B-06-5**	**B-06-20**	**B-07-0**	**B-07-5**	**B-07-20**	**B-08-0**	**B-08-5**	**B-08-20**	**B-09-0**	**B-09-5**
Sample Date		**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**
Analyte	**ESL (mg/kg)**	**DROs and MROs - Soil (mg/kg)**													
TPH-d	260	**<u>320</u>**	ND (<10)	ND (<10)	140	ND (<10)	ND (<10)	27	ND (<10)	ND (<10)	57	27	ND (<10)	**<u>640</u>**	14
TPH-mo	12,000	770	ND (<50)	ND (<50)	500	ND (<50)	ND (<50)	130	ND (<50)	ND (<50)	330	140	ND (<50)	2,900	140

Sample ID		**B-10-0**	**B-10-5**	**B-10-20 (Lab ID B-20-20)**	**B-11-0**	**B-11-5**	**B-11-20**	**B-12-0**	**B-12-5**	**B-12-20**
Sample Date		**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**ESL (mg/kg)**	**DROs and MROs - Soil (mg/kg)**								
TPH-d	260	18	ND (<10)	ND (<10)	23	ND (<10)	ND (<10)	69	11	ND (<10)
TPH-mo	12,000	100	ND (<50)	ND (<50)	110	ND (<50)	ND (<50)	330	86	ND (<50)

Notes
<u>Bold, Underlined and Highlighted</u> = Analytical result exceeds screening level:
TPH-d=total petroleum hydrocarbons as diesel
TPH-mo=total petroleum hydrocarbons as motor oil
Diesel Range Organics (DROs) and Motor Oil Range Organics (MROs) by EPA Method 8015M
mg/kg = milligrams per kilogram
ESL = San Francisco Regional Water Quality Control Board (RWQCB) Tier II Environmental Screening Levels
ND = Non Detect
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)

Table 3
Summary of Total Petroleum Hydrocarbons as Gasoline
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID		B-01-5	B-01-10	B-01-15	B-01-20	B-02-5	B-02-10	B-02-15	B-02-20	B-03-5	B-14-5 Duplicate of B-03-5	B-03-10	B-03-15	B-03-20
Sample Date		**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**
Sample Depth (feet below ground surface)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**20**	**5**	**5**	**10**	**15**	**20**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**												
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)

Sample ID		B-04-5	B-04-10	B-04-15	B-04-20	B-05-5	B-05-10	B-15-10 Duplicate of B-05-10	B-05-15	B-05-20	B-06-5	B-06-10	B-06-15	B-06-20
Sample Date		**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**5**	**10**	**15**	**20**	**5**	**10**	**10**	**15**	**20**	**5**	**10**	**15**	**20**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**												
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)

Sample ID		B-07-5	B-07-10	B-07-15	B-07-20	B-08-5	B-08-10	B-08-15	B-16-15 Duplicate of B-08-15	B-08-20	B-09-5	B-10-5	B-10-10	B-10-15
Sample Date		**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**5**	**5**	**10**	**15**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**												
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2) J	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.22)	ND (<0.2)	ND (<0.2)

Sample ID		B-10-20	B-20-20 Duplicate of B-10-20	B-11-5	B-11-10	B-11-15	B-11-20	B-12-5	B-12-10	B-12-15	B-12-20
Sample Date		**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**20**	**20**	**5**	**10**	**15**	**20**	**5**	**10**	**15**	**20**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**									
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)

Notes
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
TPH-g=total petroleum hydrocarbons as gasoline
GROs by EPA Method 8015B
mg/kg = milligrams per kilogram
ESL = San Francisco Regional Water Quality Control Board (RWQCB) Tier II Environmental Screening Levels
ND = Non Detect
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)

Sample ID			B-01-0	B-13-0 Duplicate of B-01-0	B-01-5	B-01-20	B-02-0	B-02-5	B-02-20	B-03-0	B-03-5	B-14-5 Duplicate of B-03-5	B-03-20	B-04-0	B-04-5	B-04-20
Sample Date			12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019
Sample Depth (feet below ground surface)			0.5	0.5	5	20	0.5	5	20	0.5	5	5	20	0.5	5	20
Analyte	EPA RSL Residential (µg/kg)	DTSC-SL Residential (µg/kg)	PAHs - Soil (ug/kg)													
Acenaphthene	3,600,000	3,300,000	ND (<40) J	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Acenaphthylene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Anthracene	18,000,000	17,000,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benz(a)anthracene	1,100	1,100	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	140 J	ND (<40) J	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(a)pyrene	110	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(b)fluoranthene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(g,h,i)perylene	--	--	ND (<40) J	2,200 J	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(k)fluoranthene	11,000	11,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Chrysene	110,000	110,000	ND (<40) J	1,900 J	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Dibenz(a,h)anthracene	110	28	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<96)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<96)	ND (<48)	ND (<48)
Fluoranthene	2,400,000		ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<100)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	7,400	ND (<52)	ND (<52)
Fluorene	2,400,000	2,300,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Indeno(1,2,3-cd)pyrene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	**4,600**	ND (<40)	ND (<40)
Naphthalene	2,000	2,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Phenanthrene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Pyrene	1,800,000	1,800,000	ND (<52) J	1,900 J	ND (<52)	ND (<52)	ND (<100)	ND (<52)	ND (<52)	1,600	ND (<52)	ND (<52)	ND (<52)	1,800	ND (<52)	ND (<52)

Sample ID			B-05-0	B-05-5	B-05-20	B-06-0	B-06-5	B-06-20	B-07-0	B-07-5	B-07-20	B-08-0	B-08-5	B-08-20
Sample Date			12/17/2019	12/18/2019	12/18/2019	12/17/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019
Sample Depth (feet below ground surface)			0.5	5	20	0.5	5	20	0.5	5	20	0.5	5	20
Analyte	EPA RSL Residential (µg/kg)	DTSC-SL Residential (µg/kg)	PAHs - Soil (ug/kg)											
Acenaphthene	3,600,000	3,300,000	6,300	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Acenaphthylene	--	--	ND (<120)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Anthracene	18,000,000	17,000,000	40,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benz(a)anthracene	1,100	1,100	190,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(a)pyrene	110	--	ND (<120)	ND (<40)	ND (<40)	**4,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(b)fluoranthene	1,100	--	**140,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(g,h,i)perylene	--	--	66,000	ND (<40)	ND (<40)	2,800	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(k)fluoranthene	11,000	11,000	**46,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Chrysene	110,000	110,000	ND (<120)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Dibenz(a,h)anthracene	110	28	ND (<140)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)
Fluoranthene	2,400,000		ND (<160)	ND (<52)	ND (<52)	7,800	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)
Fluorene	2,400,000	2,300,000	10,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Indeno(1,2,3-cd)pyrene	yes	--	**62,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	**4,400**	ND (<40)	ND (<40)
Naphthalene	2,000	2,000	ND (<120)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Phenanthrene	--	--	98,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Pyrene	1,800,000	1,800,000	160,000	ND (<52)	ND (<52)	2,200	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	2,000 J	ND (<52) J	ND (<52) J

Notes
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
PAH = polycyclic aroamatic hydrocarbons by EPA Method 8270C
µg/kg = micrograms per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 4
Summary of Polycyclic Aromatic Hydrocarbons
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780

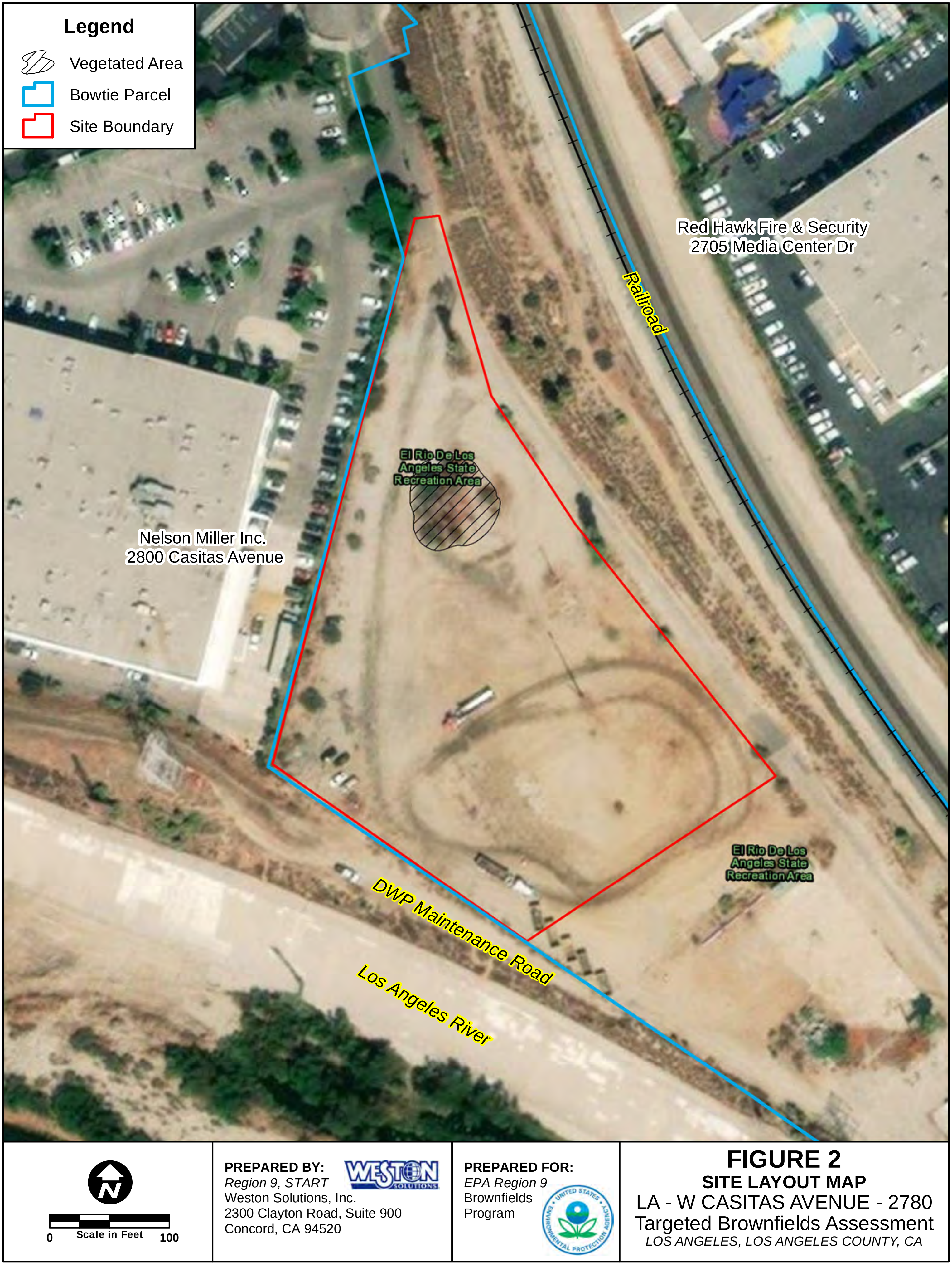
Sample ID			**B-09-0**	**B-09-5**	**B-10-0**	**B-10-5**	**B-10-20 (Lab ID B-20-20)**	**B-11-0**	**B-11-5**	**B-11-20**	**B-12-0**	**B-12-5**	**B-12-20**
Sample Date			**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)			**0.5**	**5**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**EPA RSL Residential (µg/kg)**	**DTSC-SL Residential (µg/kg)**	**PAHs - Soil (ug/kg)**										
Acenaphthene	3,600,000	3,300,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40) J	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Acenaphthylene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Anthracene	18,000,000	17,000,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benz(a)anthracene	1,100	1,100	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(a)pyrene	110	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	**<u>750</u>**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(b)fluoranthene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(g,h,i)perylene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(k)fluoranthene	11,000	11,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Chrysene	110,000	110,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Dibenz(a,h)anthracene	110	28	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)
Fluoranthene	2,400,000		ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)
Fluorene	2,400,000	2,300,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Indeno(1,2,3-cd)pyrene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Naphthalene	2,000	2,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Phenanthrene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Pyrene	1,800,000	1,800,000	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J

Notes
<u>Bold, Underlined and Highlighted</u> = Analytical result exceeds screening levels
PAH = polycyclic aroamatic hydrocarbons by EPA Method 8270C
µg/kg = micrograms per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

0 Feet 2,000	**PREPARED BY:** *Region 9, START* Weston Solutions, Inc. 2300 Clayton Road, Suite 900 Concord, CA 94520	**PREPARED FOR:** *EPA Region 9* Brownfields Program	**FIGURE 1** **SITE LOCATION MAP** LA - W CASITAS AVENUE - 2780 Targeted Brownfields Assessment *LOS ANGELES, LOS ANGELES COUNTY, CA*

Contract: 68HE0919D0002 ; **TO: 68HE0919F0083-03**

Document Control Number: 0006-08-AADA



PREPARED BY:
Region 9, START
Weston Solutions, Inc.
2300 Clayton Road, Suite 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Brownfields
Program

FIGURE 2
SITE LAYOUT MAP
LA - W CASITAS AVENUE - 2780
Targeted Brownfields Assessment
LOS ANGELES, LOS ANGELES COUNTY, CA

Contract: 68HE0919D0002 ; TO: 68HE0919F0083-03 **Document Control Number: 0006-08-AADA**

0 Scale in Feet 100

PREPARED BY:
Region 9, START
Weston Solutions, Inc.
2300 Clayton Road, Suite 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Brownfields
Program

FIGURE 3
SOIL SAMPLING LOCATIONS
LA - W CASITAS AVENUE - 2780
Targeted Brownfields Assessment
LOS ANGELES, LOS ANGELES COUNTY, CA

Contract: 68HE0919D0002 ; TO: 68HE0919F0083-03

Document Control Number: 0006-08-AADA

Residential Soil Screening Levels	
Benzo(a)pyrene	110 µg/kg (EPA-RSL)
Benzo(b)fluoranthene	1,100 µg/kg (EPA-RSL)
Benzo(k)fluoranthene	11,000 µg/kg (EPA-RSL)
Indeno(1,2,3-cd)pyrene	1,100 µg/kg (EPA-RSL)
Lead	80 mg/kg (DTSC-SL)
TPH-d	260 mg/kg (ESL)

TPH-d: Total Petroleum Hydrocarbons as Diesel
DWP = Department of Water and Power
DTSC-SL = Department of Toxic Substances Control Screening Level
EPA-RSL = Environmental Protection Agency Regional Screening Level
ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
Bold and Underline = Screening Level Exceedance

Published background arsenic concentration is 12 mg/kg
Determination of a Southern California Regional Background Arsenic Concentration in Soil, DTSC (2018).

0 Scale in Feet 100

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Region 9, START
Weston Solutions, Inc.
2300 Clayton Road, Suite 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Brownfields
Program

FIGURE 4
SCREENING LEVEL EXCEEDANCES
LA - W CASITAS AVENUE - 2780
Targeted Brownfields Assessment
LOS ANGELES, LOS ANGELES COUNTY, CA

Appendix B
Health and Safety Plan

The Nature Conservancy
830 S Street,
Sacramento, California 95811

Health and Safety Plan

February 21, 2022

Citadel Project Number 1954.1001.0

The Nature Conservancy Demonstration Project
Bowtie Data Gap Sampling
Taylor Yard, Parcel G-1
Los Angeles, California 90039

www.CitadelEHS.com

Table of Contents

APPENDICES

1.0 SITE DESCRIPTION

Citadel EHS (Citadel) has prepared this Health and Safety Plan (HASP) for use during soil sampling activities conducted at the north end of Taylor Yard, Parcel G-1, in the City of Los Angeles, California (Site). The Site consists of a vacant lot of approximately 3 acres in size. The Assessor's Parcel Number (APN) for the Site is 5442-002-919.

Activities conducted under Citadel's direction at the Site will be in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations, particularly those in Title 8 California Code of Regulations (CCR) 5192, and other applicable federal, state, and local laws, regulations, and statutes. A copy of this HASP will be kept onsite during scheduled field activities.

2.0 BACKGROUND

The Site is located on the northern end of the G-1 Parcel of the former Union Pacific Railroad (UPRR) Taylor Yard that conducted railroad operations from the 1890s to the late 1990s. The Site was acquired by the California Department of Parks and Recreation (DPR) in 2003 as part of a larger G-1 Parcel 18-acre transaction. The Site is to be redeveloped as The Nature Conservancy Demonstration Project, consisting of the construction of a natural feature designed to improve quality of urban stormwater runoff.

Citadel reviewed a Final Phase I/II Investigation Targeted Brownfields Assessment Report (TBA), prepared by Weston Solutions (Weston) June 2020. Weston conducted a Phase I Environmental Site Assessment (ESA) (Phase I), and a Phase II ESA (Phase II). As part of the Phase II, Weston conducted a geophysical survey, advanced twelve borings with a direct push drilling rig, and collected surface soil samples from between 0 and 0.5 feet below ground surface (bgs), and subsurface soil samples from five, 10, 15 and 20 feet bgs. Select samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg), TPH as diesel (TPHd), or TPH as oil (TPHo); Title 22 Metals; polynuclear aromatic hydrocarbons (PAHs); and volatile organic compounds (VOCs). A summary of Weston's Phase I and Phase II findings is presented here.

- Lead was reported in all surface samples, at concentrations between 6.8 and 140 milligrams per kilogram (mg/kg), above the Soluble Threshold Concertation Limit (STLC) regulatory threshold of 50 mg/kg in one surface sample and above the Toxicity Characteristic Leaching Procedure (TCLP) regulatory threshold of 100 mg/kg in one surface sample.
- Arsenic was reported in four surface samples, at concentrations between 2.1 and 4.4 mg/kg, above the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) residential environmental screening Level (ESL) of 0.0673 mg/kg, but below the Department of Toxic Substances Control (DTSC) background screening level for arsenic of 12 mg/kg.
- TPHd was reported in 15 samples, at concentrations between 14 and 640 mg/kg, and above the SFRWQCB residential ESL of 260 mg/kg in four surface samples.
- TPHo was reported in 16 surface samples from all borings, at concentrations between 54 and 2,900 mg/kg, and above the SFRWQCB residential ESL of 260 mg/kg in six surface samples.
- The PAHs benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, and Indeno(1,2,3-cd)pyrene were reported in six samples, at concentrations above the respective SFRWQCB residential ESLs in five surface samples.
- Weston recommended that surface soil contaminated with lead, TPHd and PAHs above ESLs should be capped or removed to prevent exposure or release to mitigate potential

impacts to human health; and an Analysis of Brownfields Cleanup Alternatives (ABCA) should be prepared to evaluate cleanup alternatives required to address lead, TPHd and PAHs in soil.

3.0 SAFETY POLICY

Safety will be given primary importance in the planning and operation of this project. The safety policy shall strictly adhere to current EPA and OSHA standards, and local government agency requirements having authority over the project as regards to Client employees, as well as to public safety. Some of the applicable health and safety standards are listed below:

- 40 Code of Federal Regulations Part 261, Identification and Listing of Hazardous Waste;
- Health and Safety Code, Division 20, Chapter 6.5, California Hazardous Waste Control Act;
- Title 8, California Code of Regulations, Section 1510, Safety Instruction for Employees;
- Title 8, California Code of Regulations, Section 3380, Personal Protective Equipment;
- Title 8, California Code of Regulations, Section 5144, Respiratory Protection;
- Title 8, California Code of Regulations, Section 5194, Hazard Communication; and
- Title 22, California Code of Regulations, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste.

Each subcontracting firm (if any) will assume primary responsibility for the safety of their own work in regard to their employees and other persons. Subcontractors will assume the duty to comply with OSHA, and all other federal, state and local regulations.

The subcontractors work will be monitored by Citadel project managers for implementation of this HASP, while adhering to their own safety program. Citadel will retain the authority and power to enforce this HASP during the progress of the work. Any deficiencies in safe work practices will be brought to the attention of the subcontractor firm's supervisor for immediate corrective action. If the subcontractor fails or refuses to take corrective action promptly, a stop work order shall be issued and the subcontractor or the subcontractor employee may be removed from the Site.

4.0 WORK DESCRIPTION

Soil sampling will be conducted in accordance with the DTSC approved Workplan for Data Gap Soil Sampling, dated October 25, 2021. A total of eight test pits will be advanced using a power auger and hand auger at the location of each boring location where previous positive shallow contamination was detected. Citadel will collect soil samples at two, four, and five feet bgs from each of the test pits. A total of three quality control samples (10%) will be collected from the eight test pits. Spoils and decontamination water will be stored in drums for eventual off-site disposal. Samples will be collected from the drums for waste characterization purposes. Refer to Standard Operating Procedures P-07 for Soil Sample Collection in Appendix A for further details.

All samples will be transported under proper Chain-of-Custody (COC) protocols to an Environmental Laboratory Accreditation Program (ELAP) state-certified laboratory. The soil samples and quality control samples from the test pits will be analyzed for lead by EPA Method 6010B, polycyclic aromatic hydrocarbons (PAH) by EPA Method 8270C selective ionization method (SIM), and diesel-range hydrocarbons by EPA Method 8015B. The samples from the drums will be analyzed as a composite for Title 22 Metals by EPA Methods 6010B/7471A and TPH full range by EPA Method 8015B, and as discrete samples for VOCs by EPA 8260B.

5.0 KEY PROJECT PERSONNEL AND RESPONSIBILITIES

Project Manager	Nalinna Rasu (Citadel)
Site Safety Officer (SSO)/Project Monitor	Tim Lambert (Citadel)

PROJECT MANAGER

The Project Manager has the ultimate responsibility for the health and safety of personnel at the Site. The Project Manager is responsible for:

- Ensuring that project personnel review and understand the requirements of this HASP;
- Keeping on-site personnel informed of the expected hazards and appropriate protective measures at the Site; and
- Providing resources necessary for maintaining a safe and health work environment.

SITE SAFETY OFFICER/PROJECT MONITOR

The SSO is responsible for enforcing the requirements of this HASP once site work begins. The SSO has the authority to immediately correct situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger to site workers or the environment is perceived. Responsibilities of the SSO also include:

- Obtaining and distributing PPE and air monitoring equipment necessary for this project;
- Limiting access at the Site to authorized personnel;
- Communicating unusual or unforeseen conditions at the Site to the Project Manager;
- Supervising and monitoring the safety performance of site personnel to evaluate the effectiveness of health and safety procedures and correct deficiencies;
- Conducting daily tailgate safety meetings before each day's activities begin; and
- Conducting a site safety inspection prior to the commencement of each day's field activities.

SUBCONTRACTOR PERSONNEL

Subcontractor personnel (if any) are expected to comply with the minimum requirements specified in this HASP. Failure to do so may result in the dismissal of the subcontractor or any of the subcontractor's workers from the job site. Subcontractors may employ health and safety procedures that afford them a greater measure of personal protection than those specified in this plan as long as they do not pose additional hazards to themselves, the environment, or others working in the area.

6.0 SITE CONTROL MEASURES

The SSO or Project Manager has been designated to coordinate access and security on site. The Client is responsible for general Site safety and each on-Site contractor must comply with their site-specific safety plan.

7.0 STANDARD OPERATING PROCEDURES

GENERAL SAFETY

- Maintain good housekeeping at all times in all project work areas.
- Check the work area to determine what problems or hazards may exist.
- Designate specific areas for the proper storage of materials.
- Store tools, equipment, materials, and supplies in an orderly manner.
- Provide containers for collecting trash and other debris.
- Clean up all spills quickly.
- Report unsafe conditions or unsafe acts to your supervisor immediately.
- Report all occupational illnesses, injuries, and vehicle accidents.
- Do not wear loose clothing, wristwatches, and other loose accessories when within arm's reach of moving machinery.
- Emergency exits and evacuation areas should be clearly marked during work activities.
- Personnel fall protection is required when climbing to perform maintenance six feet or higher above ground.
- Inspect hand tools and use proper PPE.
- Ensure proper grounding and guarding of equipment.
- Keep hands and fingers out of pinch points.
- Use good ergonomic posturing when working with heavy items.

COMMUNICATION PROCEDURES

Due to the close proximity of all field crew members, the necessity for radio communication is not necessary.

The following standard hand signals will be used:

Hand drawn across throat .... Cease operation immediately
Hand gripping throat .... Out of air, cannot breathe
Grip partner's wrist or both hands around waist .... Leave area immediately
Hands on top of head .... Need assistance
Thumbs up .... OK, I am alright, understood
Thumbs down .... No, negative

FIELD VEHICLES

- Equip vehicles with emergency supplies and equipment.
- Maintain both a first aid kit and fire extinguisher in the field vehicle at all times.
- Utilize a rotary beacon on vehicle if working adjacent to active roadway.
- Always wear seatbelt while operating vehicle.
- Tie down loose items.

MANUAL LIFTING

- Personnel shall seek assistance when performing manual lifting tasks that appear beyond their physical capabilities.
- Assess the situation before lifting, ensure good lifting and body positioning practices, and ensure good carrying and setting down practices.

HEAT EXPOSURE

- Limit exposure to the sun or take extra precautions when the UV index rating is high.
- Take lunch and breaks in shaded areas.
- Create shade by using umbrellas, tents, and canopies.
- Wear proper clothing: long sleeved shirts with collars, long pants, and UV-protective sunglasses or safety glasses.
- Apply sunscreen generously to all exposed skin surfaces at least 20 minutes before exposure. Re-apply sunscreen at least every 2 hours, and more frequently when sweating or performing activities where sunscreen may be wiped off.
- Communicate any concerns regarding heat stress to a supervisor.
- Keep hydrated throughout the day (about 4 cups per hour).
- OHSA's Heat Index:

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

Utilities (Under Ground and Above Ground): Low Hazard. All boring locations will be hand drilled and stop work will be enforced if any utilities are encountered.

Biological Hazards: Low to Medium Hazard. Beware of spiders, insects and other possible animals.

Site Instability: Low to Medium Hazard. The Site will be inspected prior to equipment placement and closely monitored. Any settling of the equipment will cause the work to stop immediately.

Equipment Refueling: Low Hazard. Equipment shall not be refueled with the engine running. Cigarettes, open flames, or other ignition sources are not allowed within 50 feet of the fueling location.

Personnel Injury: Upon notification of an injury, the Project Field Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement. The Project Field Leader shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required).

Fire/Explosion: The fire department shall be alerted, and all personnel moved to a safe distance from the involved area.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, work will cease until the situation is evaluated and appropriate actions taken.

COVID-19 FIELD WORK PREVENTION GUIDELINES

The following guidelines were prepared to prevent COVID-19 transmission while performing essential field work activities at the Site:

1. **Stay at least 6 feet from others** whenever possible. Avoid, or at least **minimize close contact with others**. Close contact means being <u>within 6 feet of someone else for more than 15 minutes</u>. By CDC guidelines, it doesn't matter if you are wearing face covering or not to be consider as being in close contact. Even with face covering, being close for extended periods of time, can greatly increase your risk of exposure. *Keep your distance even when wearing face covering or PPE.*

2. **Wear face covering in public and anytime you will interface with others**, regardless of time. *Distance and face covering are likely the two best methods available to minimize exposures.*

3. **Wash your hands frequently and avoid touching your face, nose and mouth with unwashed hands.** Also, don't be fooled into a false sense of security, believing gloves will fully protect you from COVID-19. Even when you wear gloves for protection against chemicals, you still need to wash your hands to minimize exposure.

   Be careful when putting on and taking off PPE to be sure we do not contaminate our hands in the process and then touch our face, nose or mouth with unwashed hands. In doing so, we defeat the purpose of wearing PPE. *Also, don't overdo the hand sanitizer – choose to use soap and water as much as possible.*

4. **Clean and disinfect surfaces you come into contact and minimize touching commonly used surfaces whenever possible.** Cleaning and disinfecting surfaces would not be as important if everyone were wearing face covering and washing their hands more regularly. But because individual behaviors vary quite a bit, we need to do what we can to protect ourselves and others by routinely cleaning and disinfecting the things we touch. How often will depend on how often you touch a surface or object and whether others are likely to come into contact with it as well. *Cleaning and disinfecting helps reduce exposure, but don't rely on it as a replacement for distancing, face covering and hand washing.*

5. **Monitor your own health** for COVID-19 symptoms and **stay at home**, away from others, if symptoms develop. The sooner you self-isolate, the more you lessen the chance of spreading it to others, regardless of whether it is COVID-19, the flu or some other contagion.

8.0 EXPOSURE MONITORING

The following substances may be encountered on site. The primary hazards of each are identified as follow:

Substances	Concentration	Primary Hazards
Lead	Various	Ingestion, inhalation, skin, eye contact
Total Petroleum Hydrocarbons	Various	Ingestion, inhalation, skin
Volatile Organic Compounds	Various	Ingestion, inhalation, skin

Lead: Acute exposure to lead via ingestion or inhalation can cause impaired kidney function, high blood pressure, nervous system and neurobehavioral effects, cognitive dysfunction later in life, and subtle cognitive effects attributed to prenatal exposure. Pregnant women need to be especially concerned since exposure can have serious impact on the developing fetus. Even low levels of lead in the blood of children can result in behavior and learning problems, lower IQ and hyperactivity, slowed growth, hearing problems and anemia. In rare cases, ingestion of lead can cause seizures, coma and even death.

Total Petroleum Hydrocarbons (TPH): TPH is a term used to describe a large family of several hundred chemical compounds that originally come from crude oil. A complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene, and aromatic hydrocarbons. May include benzene and its derivatives, sulfur, and naphthalene. Danger of serious damage to health by prolonged exposure in contact with skin. Possible risk of harm to the unborn child. Repeated exposure may cause skin dryness or cracking. Breathing of high vapor concentrations may cause dizziness, light-headedness, headache, nausea, and loss of co-ordination. Continued inhalation may result in unconsciousness. Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne. Components of the product may be absorbed into the body through the skin. Prolonged and repeated contact with the product may cause skin cancer. May cause damage to the liver.

Volatile Organic Compounds (VOC)s: VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Health effects include eye, nose, and throat irritation, headaches, loss of coordination, nausea, and damage to liver, kidney, and central nervous system. Some organics are known to cause cancer in humans.

ACTION LEVELS AND EXPOSURE LIMITS

VOCs and TPH

According to OSHA (29 CFR 1926.55 Appendix A, Footnote (A (3)), the composition of TPH varies greatly and thus a single Threshold Limit Value (TLV)[1] for all types of these materials is not applicable. The OHSA Short Term Exposure Limit (STEL)[2] for compounds commonly present in TPH-impacted soil is listed below; these concentrations must not be exceeded when working in areas where these hazardous compounds may be present:

VOCs: 100 ppm_v

[1] TLV refers to airborne concentrations of chemical substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse effects (American Conference of Governmental Industrial Hygienists (ACGIH).

[2] Defined as a 15-minute time-weighted average exposure which is not to be exceeded at any time during a workday even if the 8-hour time-weighted average is below the PEL.

If these concentrations are exceeded and cannot be controlled by local methods, an evacuation of the immediate area and possibly the Site will be ordered in accordance with the evacuation route in Section 11.0.

Lead and Total Dust

The Cal/OSHA PEL for lead is no greater than 0.05 mg/m^3 averaged over an 8-hour period. The OSHA PEL for total dust is 15 mg/m^3. For the purposes of this HASP, handheld DustTrak monitors will be used to determine fugitive dust emissions in the ambient air at the Site. These instruments only indicate total particulate levels and are not specific contaminant concentrations.

If dust levels as monitored by a DustTrak monitor exceed the total dust PEL of 15 mg/m3 and cannot be controlled by local methods, an evacuation of the immediate area and possibly the Site will be ordered in accordance with the evacuation route in Section 11.0.

DUST MONITORING

SCAQMD requires that Rule 403 for Fugitive Dust be followed to reduce the amount of particulate matter entrained into ambient air as a result of normal construction activities. This rule is intended to limit the emissions of fugitive dust or particulate matter from a variety of activities and sources such as construction sites, bulk material hauling, unpaved parking lots, and disturbed soil in open areas and vacant lots; this rule applies to any activity or man-made condition capable of generating fugitive dust.

Rule 403 requires that fugitive dust generated during any activity or man-made condition such as excavation, demolition, construction, and soil disturbance, shall be prevented, reduced or mitigated.

9.0 PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to protect employees from hazards and potential hazards they are likely to encounter during site activities. The amount and type of PPE used will be based on the nature of the hazard encountered or anticipated. Respiratory protection will be utilized when an airborne hazard has been identified using real-time air monitoring devices, or as a precautionary measure in areas designated by the SSO, elevating to level C. If this occurs, contractor personnel shall be respirator-approved.

Dermal protection, primarily in the form of chemical-resistant gloves and coveralls, will be worn whenever contact with chemically affected materials (e.g. soils, groundwater, sludge) is anticipated, without regard to the level of respiratory protection required.

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

Location	Job Function	Level of Protection
Controlled Area	All Workers	A B C D Other

Specific protective equipment for each level of protection is as follows:

Level A
Fully-encapsulating suit
SCBA
Disposable coveralls

Level B
Splash gear
SCBA

Level C
Splash gear
Half-face canister respirator with H_2S/VOC cartridge
Mouth/nose canister respirator
Efficiency 100 (HEPA)

Level D
Hard hat
Ear plugs
Neoprene or leather gloves - nitrile gloves
Safety vests and Glasses
Hard toe boots

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SSO OR PROJECT MANAGER.

10.0 DECONTAMINATION PROCEDURES

Despite protective procedures, personnel may come in contact with potentially hazardous compounds while performing work tasks. If so, decontamination needs to take place using an Alconox or tri-sodium phosphate (TSP), followed by a rinse with clean water. Standard decontamination procedure for levels C and D are as follows:

- Equipment drop
- Boot cover and outer glove wash and rinse
- Boot cover and out glove removal
- Suit wash and rinse
- Suit removal
- Safety boot wash and rinse
- Inner glove wash and rinse
- Respirator removal
- Inner glove removal
- Field wash of hands and face

Workers should employ only applicable steps in accordance with level of PPE worn and extent of contamination present. The SSO shall maintain adequate quantities of clean water to be used for personal decontamination (i.e. field wash of hands and face) whenever a suitable washing facility is not located in the immediate vicinity of the work area. Disposable items will be disposed of in an appropriate container. Wash and rinse water generated from decontamination activities will be handled and disposed of properly. Non-disposable items may need to be sanitized before reuse. Each site worker is responsible for the maintenance, decontamination, and sanitizing of his/her own PPE.

Used equipment may be decontaminated as follows:

- An Alconox or TSP and water solution will be used to wash the equipment.
- The equipment will then be rinsed with clean water.

Each person must follow these procedures to reduce the potential for transferring chemically affected materials offsite.

11.0 EMERGENCY PROCEDURES

In the event of an emergency, site personnel will signal distress with three blasts of a horn (a vehicle horn will be sufficient), or other predetermined signal. Communication signals, such as hand signals, must be established where communication equipment is not feasible or in areas of loud noise.

The SSO will designate evacuation routes and refuge areas to be used in the event of an emergency. Site personnel will stay upwind from vapors or smoke and upgradient from spills. Workers should exit through the established decontamination areas wherever possible. If evacuation cannot be done through an established decontamination area, site personnel will go to the nearest safe location and remove contaminated clothing there. Personnel will assemble at the predetermined refuge following evacuation and decontamination. The SSO will count and identify site personnel to verify that all personnel have been evacuated safely. Please refer to Figure 1.0 for the evacuation route and refuge location.

FIGURE 1.0 – EVACUATION ROUTE AND REFUGE AREA

= Approximate Project Boundaries

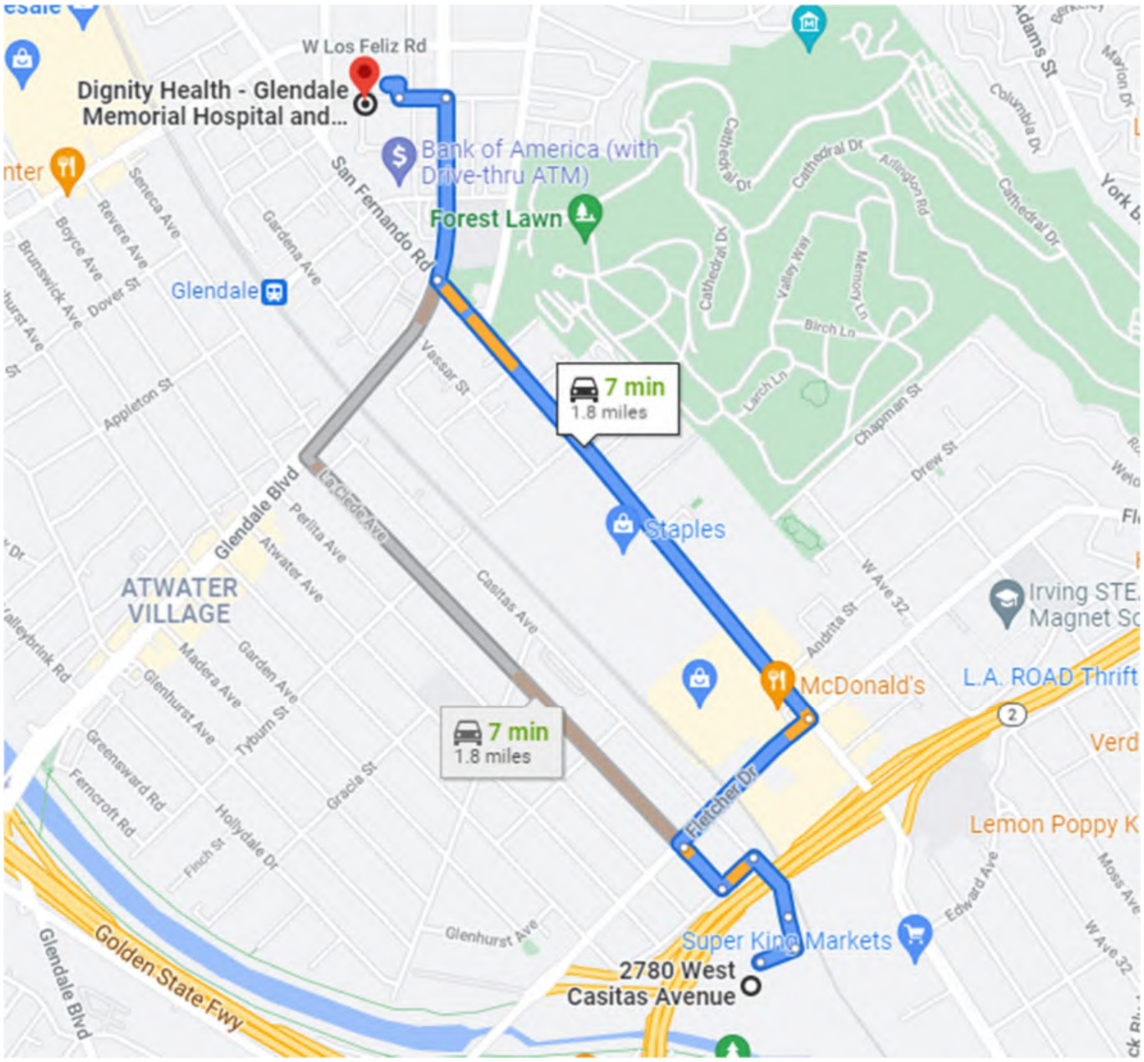
= Refuge Area

= Evacuation Route

FIGURE 2.0 – DESIGNATED MEDICAL FACILITY

The designated medical facility is:

Dignity Health Memorial Hospital and Health Care
1420 S Central Ave, Glendale, CA 91204
(818) 502-1900



Directions:

Take W Casitas Ave, Carillon St and La Clede Ave to Fletcher Dr	0.3 mi
Take N San Fernando Rd to W Laurel St in Glendale	1.3 mi
Continue on W Laurel St to your destination, on the right	0.1 mi

Local ambulance service is available from:

Name: Local Paramedics
Phone: 911

First-aid equipment is available in the SSO's vehicle.

List of emergency phone numbers:

Agency/Facility	**Phone**
Police/Fire	911
Hospital	(818) 502-1900

12.0 SIGNATURES

This HASP has been prepared by:

Scott Grasse, PG, MSc
Project Geologist, Engineering and Environmental Sciences

This HASP has been reviewed by:

Nalinna Rasu, CAC, CDPH, CHMM, LEED AP
Principal, Engineering and Environmental Sciences

SIGNATURE PAGE

The following signatures indicate that this Health and Safety Plan (HASP) has been read and accepted by all site personnel.

NAME	COMPANY	SIGNATURE	DATE

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Appendix C
Standard Operating Procedure

STANDARD OPERATING PROCEDURE P07
SOIL SAMPLE COLLECTION USING HAND EQUIPMENT

1.0 GENERAL

a. The purpose of soil borings is to provide access to subsurface soils at specified locations and depths.
b. Selecting the proper methods and tools for subsurface soil sampling is a critical part of field investigations. This SOP describes the methods generally used for subsurface soil sampling using hand-held equipment, as well as the tools commonly used.
c. Proper PPE should be worn at all times. At a minimum all personnel who collect or handle the soil samples should wear disposable nitrile gloves to prevent cross-contamination and provide personal protection. New gloves should be donned for sample collection at each location, or whenever gloves are torn or otherwise compromised. Work boots, long pants, safety vest, eye and ear protection and hard hats should also always be worn.

2.0 DEFINITIONS

Cuttings: Mixture of soil, rock, and other subterranean matter brought to the surface during drilling of the borehole. Also referred to as spoils.

Discrete sample: An individual and separate sample obtained from a single location. Multiple discrete samples can be combined to form a composite sample.

Hand auger: A cylindrical bucket auger of approximately 1 to 4 inches in diameter and four to eight inches in length. The bottom is fitted with a cutting shoe composed of angled teeth that is designed to advance perpendicular to the ground surface with a twisting motion into unconsolidated subsurface material to collect soil. The auger has a T-shaped handle (fixed or ratchet used for manual operation) attached to the top of the bucket by extendable stainless steel rods.

Power auger: A hand-held powered boring tool that rotates a solid-stem flight auger of approximately 1 to 8 inches in diameter, and up to approximately 3 feet in length.

Slide hammer: A drive tool that is used to drive and retract a thin-walled stainless steel soil collection sleeve of approximately 6-inches long and 2-inches in diameter.

3.0 PROCEDURES

a. Preparation. Review the site-specific Health and Safety Plan (HASP) and any applicable boring permits. Don all appropriate personal protective equipment (PPE) and nitrile gloves.
b. Soil boring advancement. Relatively shallow subsurface sampling will permit the use of hand augering or power augering equipment. Hand augering should be done

when the locations of underground utilities or other obstructions are unknown or unreliable.

- Remove all unnecessary rocks, twigs, and other non-soil materials from the selected sampling location.
- Assemble the hand or power auger, and place the boring end of the auger in position and touching the ground.
- Advance the borehole to the depth immediately above the sampling interval. Remove the boring tool. Remove all cutting from the borehole and place on plastic sheeting in stratigraphic order, and cover with plastic sheeting.

c. Soil sample collection. Subsurface soil samples below approximately 1 foot will be collected using a slide hammer. Dry, loose, or unconsolidated soil that cannot be retrieved using a slide hammer may be collected using a hand auger.

- Wear clean gloves prior to the collection of each sample.
- If the sample is to be collected using a hand auger, the auger bucket will be decontaminated (or replaced with a decontaminated bucket or sampler) before collecting the soil sample.
- If the sample is to be collected using a slide hammer, the slide will be fitted with a clean decontaminated sleeve.
- The discrete sample will be collected by advancing the sampling equipment to the appropriate depth interval and retrieving the soil sample.
- When using a slide hammer, the sleeve will be removed from the slide and quickly screened for volatile organic compounds (VOCs) using a photoionization detector (PID). If VOC levels are detected above the action levels as specified in the HASP, work will be temporarily discontinued. The ends of the sleeve will then be capped with Teflon tape and a stainless steel or plastic cap. If VOCs are detected, the breathing space around the boring will be monitored continuously during remaining boring activities.
- When using a hand auger, the sample will be immediately transferred into a laboratory-cleaned sample container using a decontaminated stainless steel spoon or trowel.
- Samples will be labeled with the following information: Boring ID, depth of sample, site address, date and time of collection, name and company of field technician.

d. Field Notes. Detailed field notes documenting the boring activities will be maintained.

4.0 SAMPLE HANDLING AND STORING

a. Soil samples must be placed in containers quickly and in the order of volatility. VOC samples must be taken first, gasoline range organics next, heavier range organics next, and soil classification samples last.

b. Samples must immediately be preserved according to the method specifications appropriate for the laboratory parameters to be analyzed. Samples are then to be chilled to 4 ±2 degrees Celsius (°C) while being transferred to the laboratory for analysis.

c. Sample holding times must conform to the method specifications of the required analytical methods.

5.0 DECONTAMINATION

Decontamination will be done prior to collecting each soil sample. Each reusable equipment will be decontaminated between each sample location or interval including the hand auger bucket and cutting shoe, and the flighted auger.

a. Place the equipment in large bucket. Using a non-phosphate detergent and tap water wash the equipment by scrubbing the equipment with a brush.
d. Conduct an initial rinse of the equipment using a second bucket to collect the soil/detergent/rinsate mixture using a deionized/distilled water rinse.
e. Conduct a final rinse of the equipment using a third bucket to collect the remaining rinsate using a deionized/distilled water rinse.

6.0 CUTTINGS HANDLING AND DISPOSAL

Cuttings will be placed in drums for eventual offsite disposal. Handling of spoils will adhere to applicable federal, state, and local laws and regulations, as well as the procedures outlined in the site-specific Health and Safety Plan.

7.0 DECOMMISSIONING

Borings will be backfilled with hydrated bentonite.

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Appendix D
Field Notes

CITADEL EHS
PROJECT DOCUMENTATION

CITADEL EHS

CLIENT	The Nature Conservancy	**PAGE**	1 OF 2
PROJECT NUMBER	1954.1001.0	**CITADEL REPRESENTATIVE**	Tim Lambert / James Wood
PROJECT NAME	Soil Sampling	**CONTRACTOR**	
PROJECT WORK AREA	Taylor Yards	**SUPERVISOR**	Nalinna Rasu
PROJECT LOCATION	2780 W Casitas Ave		

TIME	FIELD NOTES
0700	Citadel arrives on site. Meet with Kelsey of N.C.
	and Mark from Citadel. Discuss SOW.
0710	Begin setup.
0730	J.W. arrives on site. Resume setup.
0800	Review HASP, start dusttrak. Dust monitor is mounted
	approx. 4' high and 8' away from the immediate work area.
0810	Begin augering using power auger at low speed to
	control dust. B-02
0842	Two foot sample collected. Attempt hand augering.
0850	Hand augering is too difficult due to large rocks.
	Proceed to B-05. Begin power auger to 2 feet.
0900	Top soil is extremely hard.
0940	Two foot sample is collected. Proceed to B-08.
	Hand auger is decontaminated betwee each sample
	using a 3-bucket decon.
0950	Begin opening asphalt at B-08.
1000	Begin drilling.
1015	B-08-2 is collected. Begin clean up, Proceed to B-09.
1030	Begin drilling B-09.
1050	B-09-2 sampled. Clean up. Proceed to B-03.
1115	Begin drilling B-03.
1150	B-03-2 sampled. Clean up.
1215	Citadel breaks for lunch and to dump waste soil into
	waste drums.
1245	Return on site.
1255	Resume drilling B-03 remaining depth.

CITADEL REPRESENTATIVE:	Tim Lambert	**DAY:**	Wednesday
SIGNATURE:	Tim Lambert	**DATE:**	3-9-22

CITADEL EHS
PROJECT DOCUMENTATION

CITADEL EHS

CLIENT	The Nature Conservancy	**PAGE**	2 OF 2
PROJECT NUMBER	1954.1001.0	**CITADEL REPRESENTATIVE**	Tim Lambert / James Wood
PROJECT NAME	Soil Sampling	**CONTRACTOR**	
PROJECT WORK AREA	Taylor Yards	**SUPERVISOR**	Nalinna Rasu
PROJECT LOCATION	2780 W Casitas Ave		

TIME	FIELD NOTES
1313	B-03-4 sample taken.
1320	B-03-5 sampled. Clean up + backfill with bentonite.
1325	Proceed to B-02.
1405	B-02 complete. Begin clean up + backfill.
1436	B-05-4 sampled
1448	B-05-4.5 sampled. Complete refusal at 4.5' in B-05.
	Very Large Rock. Clean up, backfill. Proceed to B-08.
1503	B-08 is sampled at 4' + 5' using only hand auger.
	Clean up, backfill. Proceed to B-09.
1540	Unable to sample at B-09 due to large cobble. The
	power auger is able to advance to 4' but is not able
	to clear the cobble from the boring. This makes
	hand augering to collect sample impossible. Boring
	is temporarily abandoned. An orange 5-gallon bucket is
	placed in the boring with an orange flag. The
	boring will be attempted tomorrow. Begin clean
	up.
1600	JW off site. TL proceeds to dump waste soil and
	decon water in drums.
1635	Citadel off site.
—	Pete from DTSC was on site from ~0930-1100.
	He observed work at B-08 + B-09. No issues reported.

CITADEL REPRESENTATIVE: Tim Lambert	**DAY:** Wednesday
SIGNATURE: [signature]	**DATE:** 3-9-22

CITADEL EHS
PROJECT DOCUMENTATION

CITADEL EHS

CLIENT	The Nature Conservancy	**PAGE**	1 OF 1
PROJECT NUMBER	1954.1001.0	**CITADEL REPRESENTATIVE**	Tim Lambert / James Wood
PROJECT NAME	Soil Sampling	**CONTRACTOR**	
PROJECT WORK AREA	Taylor Yards	**SUPERVISOR**	Nalinna Rasu
PROJECT LOCATION	2780 W Casitas Ave		

TIME	FIELD NOTES
0700	Citadel on site. Begin setup at B-09.
0740	Resume ~~drill~~ power auger at B-09.
0810	B-09 sampled at 4'+5' w/a QC at 4'. Begin cleanup
	and backfill. Proceed to B-06
0825	Begin power auger at B-06.
0921	Sampling complete at B-06. Begin clean up, backfill.
	Proceed to B-04.
0939	Begin power auger at B-04
1105	B-04 sampling complete. Duplicate collected at ~~3'~~ 2'
	Begin clean up and backfill. Mobilize to B-11.
~~#~~ 1130	Citadel breaks to dump waste soil into drums.
1215	Return on site. Begin setup at B-11.
1235	Begin power auger at B-11.
1255	Rep from NC arrives on site.
1315	NC rep leaves site.
1335	B-11 complete. Clean up, backfill.
1400	Citadel leaves site to dump soil in waste drums.
1445	Drums are sealed and sampled.
1530	All samples delivered to ASL lab.

CITADEL REPRESENTATIVE: Tim Lambert	**DAY:** Thursday
SIGNATURE: Tim Lambert	**DATE:** 3-10-22

SAMPLING DATA FORM

PROJECT NUMBER:	1954.1001.0	CLIENT:	The Nature Conservancy
PROJECT NAME:	Soil Sampling		
PROJECT LOCATION:	2780 W Casitas Ave Los Angeles, CA 90039		
WORK AREA(S):	1) 2) 3)		

DATE:	PAGE: ___ of ___
COLLECTED BY:	Tim Lambert
ANALYTICAL METHOD:	
LABORATORY:	
TURNAROUND TIME:	
DATE DELIVERED:	

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SAMPLE ID	SAMPLE TIME	SAMPLE TYPE	SAMPLE LOCATION	SAMPLING MEDIA #	SAMPLING MEDIA TYPE AND SIZE	COMMENTS	PID
B-02-2	0842	SD	Boring B-02	1	4oz Jar	Silty Sand w/Gravel	0
B-05-2	0939	SD	Boring B-05				0
B-08-2	1015	SD	Boring B-08				0
B-09-2	1050	SD	Boring B-09				0
B-03-2	1150	SD	Boring B-03				0
B-03-4	1313	SD					0
B-03-5	1320	SD					0
B-02-4	1354	SD	Boring B-02				0
B-02-5	1405	SD					0
B-05-4	1436	SD	Boring B-05				0
B-05-4.5	1448	SD					0
B-08-4	1457	SD	Boring B-08				0

SAMPLE TYPE:
SD = Discrete Soil
SC = Composite Soil
LW = Liquid - Water
LO = Liquid - Other
O = Other - Specify

SIGNATURES:
SAMPLED BY: Tim Lambert
REVIEWED BY:

SAMPLING DATA FORM

PROJECT NUMBER: 1954.1001.0 **CLIENT:** The Nature Conservancy

PROJECT NAME: Soil Sampling

PROJECT LOCATION: 2780 W Casitas Ave
Los Angeles, CA 90039

WORK AREA(S): 1) 2) 3)

DATE: 3-9-22 + 3-10-22 **PAGE:** 2 **of**

COLLECTED BY: Tim Lambert

ANALYTICAL METHOD:

LABORATORY:

TURNAROUND TIME:

DATE DELIVERED:

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SAMPLE ID	SAMPLE TIME	SAMPLE TYPE	SAMPLE LOCATION	SAMPLING MEDIA #	SAMPLING MEDIA TYPE AND SIZE	COMMENTS	PID
B-08-5	1500	SD	Boring B-08	1	4oz Jar	3-9-22	0
B-09-4	0758	SD	Boring B-09			3-10-22	0
B-09-4DUP	0759	SD					0
B-09-5	0810	SD					0
B-06-2	0845	SD	Boring B-06				0
B-06-4	0911	SD					0
B-06-5	0921	SD					0
B-04-2	1021	SD	Boring B-04				0
B-04-2Dup	1021	SD					0
B-04-4	1046	SD					0
B-04-5	1104	SD					0
B-11-2	1308	SD	Boring B-11				0

SAMPLE TYPE:
SD = Discrete Soil
SC = Composite Soil
LW = Liquid - Water
LO = Liquid - Other
O = Other - Specify

SIGNATURES:
SAMPLED BY: Tim Lambert
REVIEWED BY:

SAMPLING DATA FORM

CITADEL EHS
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PROJECT NUMBER: 1954.1001.0 **CLIENT:** The Nature Conservancy

DATE: ______ **PAGE:** ____ of ____

PROJECT NAME: Soil Sampling

COLLECTED BY: Tim Lambert

PROJECT LOCATION: 2780 W Casitas Ave
Los Angeles, CA 90039

ANALYTICAL METHOD:

LABORATORY:

WORK AREA(S):
1)
2)
3)

TURNAROUND TIME:

DATE DELIVERED:

SAMPLE ID	SAMPLE TIME	SAMPLE TYPE	SAMPLE LOCATION	SAMPLING MEDIA #	SAMPLING MEDIA TYPE AND SIZE	COMMENTS PID
B-11-2 Dup	1308	SD	Boring B-11	1	4oz Jar	0
B-11-4	1331	SD	↓	↓	↓	0
B-11-5	1335	SD				0

SAMPLE TYPE:
SD = Discrete Soil
SC = Composite Soil
LW = Liquid - Water
LO = Liquid - Other
O = Other - Specify

SIGNATURES:
SAMPLED BY: Tim Lambert
REVIEWED BY:

SIGNATURE PAGE

The following signatures indicate that this Health and Safety Plan (HASP) has been read and accepted by all site personnel.

NAME	COMPANY	SIGNATURE	DATE
Tim Lambert	Citadel EHS	Tim Lambert	3-9-22
James Wood	Citadel EHS	James Wood	3-9-22
Tim Lambert	Citadel EHS	Tim Lambert	3-10-22
James Wood	Citadel EHS	James Wood	3-10-22

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

CHAIN OF CUSTODY RECORD

COC# GLOBAL ID ________ E REPORT: ■ PDF EDF EDD ASL JOB# ________

Company: Citadel EHS
Address: 1725 Victory Boulevard
Glendale, California 91201
Telephone: 818-246-2707
Special Instruction:
Email: nrasu@CitadelEHS.com

Project Name: Soil Sampling
Site Address: 2780 W Casitas Ave
Los Angeles CA
Project ID: 1954.1001.0
Project Manager: Nalinna Rasu

Report To:
Address:
Invoice To:
Address:
P.O.#:

ITEM	LAB USE ONLY Lab ID	Sample ID	Date	Time	Container(s) #	Container(s) Type	Matrix	Preservation	TPH-D 8015	PAHs 8270C SIM	Lead 6010	VOCs 8260B	TPH Full Scan 8015	Title 22 Metals 6010B/7471A						Remarks
		B-02-2	3-9-22	0842	1	4oz Jar	Soil	N/A	X	X	X									
		B-05-2		0939					X	X	X									
		B-08-2		1015					X	X	X									
		B-09-2		1050					X	X	X									
		B-03-2		1150					X	X	X									
		B-03-4		1313					X	X	X									
		B-03-5		1320					X	X	X									
		B-02-4		1354					X	X	X									
		B-02-5		1405					X	X	X									
		B-05-4		1436					X	X	X									

Collected By: Tim Lambert Date 3-9-22 Time 1436
Relinquished By: Tim Lambert Date 3-10-22 Time 1533
Received By: Date Time

Relinquished By: Date Time
Received For Laboratory Janet Chin Date 3-10-22 Time 15:33
Condition of Sample: Temp: 4.6 C

TAT
☑ Normal
☐ Rush

White - Report, Yellow - Laboratory, Pink - Client

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COC# GLOBAL ID ______ E REPORT: ■ PDF EDF EDD ASL JOB# ______

CHAIN OF CUSTODY RECORD

Company: Citadel EHS		Report To:	
Address: 1725 Victory Boulevard	Project Name: Soil Sampling	Address:	
Glendale, California 91201	Site Address: 2780 W Casitas Ave	Invoice To:	
Telephone: 818-246-2707	Los Angeles CA	Address:	
Special Instruction:	Project ID: 1954.1001.0		
Email: nrasu@CitadelEHS.com	Project Manager: Nalinna Rasu	P.O.#:	

ANALYSIS REQUESTED

ITEM	LAB USE ONLY Lab ID	Sample ID	Date	Time	Container(s) #	Container(s) Type	Matrix	Preservation	TPH-D 8015	PAHs 8270C SIM	Lead 6010	VOCs 8260B	TPH Full Scan 8015	Title 22 Metals 6010B/7471A	Remarks
		B-05-4.5	3-9-22	1448	1	4oz Jar	Soil	N/A	X	X	X				
		B-08-4		1457					X	X	X				
		B-08-5		1500					X	X	X				
		B-09-4	3-10-22	0758					X	X	X				
		B-09-4Dup		0759					X	X	X				
		B-09-5		0810					X	X	X				
		B-06-2		0845					X	X	X				
		B-06-4		0911					X	X	X				
		B-06-5		0921					X	X	X				
		B-04-2		1021					X	X	X				

Collected By: Tim Lambert Date 3-10-22 Time 1021	Relinquished By: Date Time	TAT
Relinquished By: Tim Lambert Date 3-10-22 Time 1533	Received For Laboratory Janet Chen Date 3-10-22 Time 15:33	☑ Normal
Received By: Date Time	Condition of Sample:	☐ Rush

White - *Report*, Yellow - *Laboratory*, Pink - *Client*

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Environmental Testing Services
2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

COC# GLOBAL ID ______ E REPORT: ■ PDF EDF EDD ASL JOB# ______

CHAIN OF CUSTODY RECORD

Company: Citadel EHS		Report To:	
Address: 1725 Victory Boulevard	Project Name: Soil Sampling	Address:	
Glendale, California 91201	Site Address: 2780 W Casitas Ave	Invoice To:	
Telephone: 818-246-2707	Los Angeles CA	Address:	
Special Instruction:	Project ID: 1954.1001.0		
Email: nrasu@CitadelEHS.com	Project Manager: Nalinna Rasu	P.O.#:	

ANALYSIS REQUESTED

ITEM	LAB USE ONLY Lab ID	Sample ID	Date	Time	Container(s) #	Container(s) Type	Matrix	Preservation	TPH-D 8015	PAHs 8270C SIM	Lead 6010	VOCs 8260B	TPH Full Scan 8015	Title 22 Metals 6010B/7471A						Remarks
		B-04-2Dup	3-10-22	1021	1	4oz Jar	Soil	N/A	x	x	x									
		B-04-4		1040					x	x	x									
		B-04-5		1104					x	x	x									
		B-11-2		1308					x	x	x									
		B-11-2Dup		1308					x	x	x									
		B-11-4		1331					x	x	x									
		B-11-5		1335					x	x	x									
		Drum 1		1430	2-4oz 5pc	Jar 5035		5035				x	x	x						Composite 2 into 1 TPH + T22
		Drum 2		1435	2-4oz 5pc	Jar 5035						x	x	x						
		Decon		1442	1 / 1 / 7	500ml Amber / 250 plastic / 5x VOAs	Water	HNO3 / HCL				x	x	x						

Collected By: Tim Lambert	Date 3-10-22	Time 1442
Relinquished By: Tim Lambert	Date 3-10-22	Time 1533
Received By:	Date	Time

Relinquished By:	Date	Time
Received For Laboratory: Janet Chen	Date 3-10-22	Time 15:33
Condition of Sample:		

TAT
☑ Normal
☐ Rush

White - Report, Yellow - Laboratory, Pink - Client

FA03419

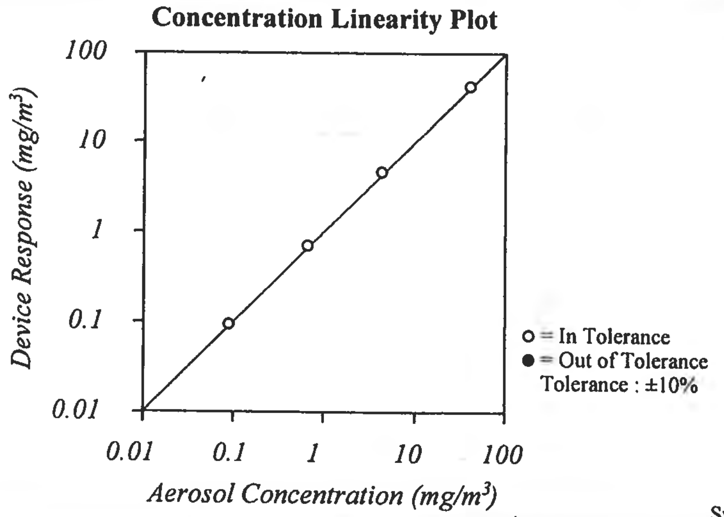
Certificate of Calibration and Testing

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

Environment Conditions		
Temperature	76.12 (24.5)	°F (°C)
Relative Humidity	45.5	%RH
Barometric Pressure	28.62 (969.2)	inHg (hPa)

Model	8534
Serial Number	8534154907

☒ As Left ☒ In Tolerance
☐ As Found ☐ Out of Tolerance



System ID: DTII01-02

Flow and Pressure Verification — **System DTII01-02**

Parameter	Standard	Measured	Allowable Range	Parameter	Standard	Measured	Allowable Range
Flow lpm	3.00	3.12	2.88 ~ 3.12	Pressure kPa	96.9	96.9	92.02 ~ 101.70
Full Flow lpm	N/A	5.07	>3.80				

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass per standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 1.2:1

Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E003314	01-11-21	01-31-22
Microbalance	M001324	01-29-21	01-31-23
3 um PSL	221853	n/a	n/a
Pressure	E003511	10-26-20	10-31-21
DC Voltage	E003315	01-11-21	01-31-22

Measurement Variable	System ID	Last Cal.	Cal. Due
Photometer	E003319	08-30-21	02-28-22
1 um PSL	698880	n/a	n/a
10 um PSL	234230	n/a	n/a
Flowmeter	E005626	03-09-21	03-31-22

Elizah S. Kay
Calibrated

October 13, 2021
Date

Appendix E
Photo Log

PHOTOGRAPHIC LOG

PHOTO 1: Equipment setup prior to sampling at B-02.

PHOTO 2: Sampling in progress at Boring B-08.

CITADEL EHS
assess resolve strengthen

The nature Conservancy

Taylor Yard Parcel G-1
Los Angeles, California

Citadel Project No. 1954.1001.0

PHOTOGRAPHIC LOG

PHOTO 3: Hand augering being performed at Boring B-03.

PHOTO 4: View of hand auger ready to collect sample B-03-4.

CITADEL EHS assess resolve strengthen	**Jamison Properties, LP** 800 South Western Avenue Los Angeles, California Citadel Project No. 5128.1067.0

PHOTOGRAPHIC LOG

PHOTO 5: Hand augering being performed at Boring B-09.

PHOTO 6: Power auger in use at boring B-06.

PHOTOGRAPHIC LOG

PHOTO 7: View of patched boring after sampling completion.

PHOTO 8: Waste drums stored safely and labeled.

Appendix F
Laboratory Reports and Chain-of-Custody Records

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

18 March 2022

Nalinna Rasu

Citadel Environmental Services, Inc.

1725 Victory Boulevard

Glendale, CA 91201

Work Order #: 2203104

Project Name: Soil Sampling Casitas Ave.

Project ID: 1954.1001.0

Site Address: 2780 W. Casitas Ave. Los Angeles, CA

Enclosed are the results of analyses for samples received by the laboratory on March 10, 2022. If you have any questions concerning this report, please feel free to contact us.

Molky Brar

Laboratory Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, L.A. CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

CHAIN OF CUSTODY RECORD

COC# GLOBAL ID ______ E REPORT: ■ PDF EDF EDD ASL JOB# 2203104

Company:	Citadel EHS
Address:	1725 Victory Boulevard, Glendale, California 91201
Telephone:	818-246-2707
Special Instruction:	
Email:	nrasu@CitadelEHS.com
Project Name:	Soil Sampling
Site Address:	2780 W Casitas Ave, Los Angeles CA
Project ID:	1954.1001.0
Project Manager:	Nalinna Rasu
Report To:	
Address:	
Invoice To:	
Address:	
P.O.#:	

ANALYSIS REQUESTED

ITEM	Lab ID (LAB USE ONLY)	Sample ID	Date	Time	Container #	Container Type	Matrix	Preservation	TPH-D 8015	PAHs 8270C SIM	Lead 6010	VOCs 8260B	TPH Full Scan 8015	Title 22 Metals 6010B/7471A						Remarks
	2203104-01	B-02-2	3-9-22	0842	1	4oz Jar	Soil	N/A	X	X	X									
	2203104-02	B-05-2		0939					X	X	X									
	2203104-03	B-08-2		1015					X	X	X									
	2203104-04	B-09-2		1050					X	X	X									
	2203104-05	B-03-2		1150					X	X	X									
	2203104-06	B-03-4		1313					X	X	X									
	2203104-07	B-03-5		1320					X	X	X									
	2203104-08	B-02-4		1354					X	X	X									
	2203104-09	B-02-5		1405					X	X	X									
	2203104-10	B-05-4		1436					X	X	X									

Collected By: Tim Lambert	Date 3-9-22	Time 1436	Relinquished By:	Date	Time	TAT
Relinquished By: Tim Lambert	Date 3-10-22	Time 1533	Received For Laboratory Janet Chin	Date 3-10-22	Time 15:33	☑ Normal
Received By:	Date	Time	Condition of Sample: Temp: 4.6 C			☐ Rush

White - Report, Yellow - Laboratory, Pink - Client

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

CHAIN OF CUSTODY RECORD

COC#   GLOBAL ID ______   E REPORT: ■ PDF EDF EDD   ASL JOB# 2203104

Company:	Citadel EHS
Address:	1725 Victory Boulevard, Glendale, California 91201
Telephone:	818-246-2707
Special Instruction:	
Email:	nrasu@CitadelEHS.com
Project Name:	Soil Sampling
Site Address:	2780 W Casitas Ave, Los Angeles CA
Project ID:	1954.1001.0
Project Manager:	Nalinna Rasu
Report To:	
Address:	
Invoice To:	
Address:	
P.O.#:	

ANALYSIS REQUESTED

ITEM	Lab ID (LAB USE ONLY)	Sample ID	Date	Time	#	Type	Matrix	Preservation	TPH-D 8015	PAHs 8270C SIM	Lead 6010	VOCs 8260B	TPH Full Scan 8015	Title 22 Metals 6010B/7471A						Remarks
	2203104-11	B-05-4.5	3-9-22	1448	1	4oz Jar	Soil	N/A	X	X	X									
	2203104-12	B-08-4		1457					X	X	X									
	2203104-13	B-08-5		1500					X	X	X									
	2203104-14	B-09-4	3-10-22	0758					X	X	X									
	2203104-15	B-09-4Dup		0759					X	X	X									
	2203104-16	B-09-5		0810					X	X	X									
	2203104-17	B-06-2		0845					X	X	X									
	2203104-18	B-06-4		0911					X	X	X									
	2203104-19	B-06-5		0921					X	X	X									
	2203104-20	B-04-2		1021					X	X	X									

Collected By: Tim Lambert	Date 3-10-22	Time 1021	Relinquished By:	Date	Time
Relinquished By: [signature]	Date 3-10-22	Time 1533	Received For Laboratory: Janet Chen	Date 3-10-22	Time 15:33
Received By:	Date	Time	Condition of Sample:		

TAT: ☑ Normal ☐ Rush

White - Report, Yellow - Laboratory, Pink - Client

AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

CHAIN OF CUSTODY RECORD

COC# GLOBAL ID ______ E REPORT: ■ PDF EDF EDD ASL JOB# 2203104

Company: Citadel EHS		Report To:	
Address: 1725 Victory Boulevard	Project Name: Soil Sampling	Address:	
Glendale, California 91201	Site Address: 2780 W Casitas Ave	Invoice To:	
Telephone: 818-246-2707	Los Angeles CA	Address:	
Special Instruction:	Project ID: 1954.1001.0		
Email: nrasu@CitadelEHS.com	Project Manager: Nalinna Rasu	P.O.#:	

ANALYSIS REQUESTED

ITEM	LAB USE ONLY Lab ID	Sample ID	Date	Time	Container(s) #	Container(s) Type	Matrix	Preservation	TPH-D 8015	PAHs 8270C SIM	Lead 6010	VOCs 8260B	TPH Full Scan 8015	Title 22 Metals 6010B/7471A						Remarks
	2203104-21	B-04-2Dup	3-10-22	1021	1	4oz Jar	Soil	N/A	X	X	X									
	2203104-22	B-04-4		1046					X	X	X									
	2203104-23	B-04-5		1104					X	X	X									
	2203104-24	B-11-2		1306					X	X	X									
	2203104-25	B-11-2Dup		1308					X	X	X									
	2203104-26	B-11-4		1331					X	X	X									
	2203104-27	B-11-5		1335					X	X	X									
	2203104-28	Drum 1		1430		2-4oz Jar 5pc 5035		5035				X	X	X						2203104-31 Composite 2 into 1 TPH+T22
	2203104-29	Drum 2		1435		2-4oz Jar 5pc 5035						X	X	X						
	2203104-30	Decon		1442	7	500ml Amber 250 plastic 5x VOAS	Water	HNO3 HCL				X	X	X						

Collected By: Tim Lambert	Date 3-10-22 Time 1442	Relinquished By:	Date Time
Relinquished By: Tim Lambert	Date 3-10-22 Time 1533	Received For Laboratory Janet Chin	Date 3-10-22 Time 15:33
Received By:	Date Time	Condition of Sample:	

TAT: ☑ Normal ☐ Rush

White - Report, Yellow - Laboratory, Pink - Client

Job# 2203104

ASL Sample Receipt Form

Client: Citadel Environmental Services, Inc

Date: 03-10-2022

Sample Information:

Temperature: 4.6 °C ☐ Blank ☑ Sample

Custody Seal: ☐ Yes ☑ No ☐ Not Available

Received Within Holding Time: ☑ Yes ☐ No

Container:

Proper Containers and Sufficient Volume: ☑ Yes ☐ No

Soil: __☑ 4oz __☐ 8oz __☐ Sleeve __☑ VOA

Water: __☐ 500AG __☐ 1AG __☐ 125PB __☐ 250PB __☐ 500PB __☐ VOA __☐ Other ______

Air: __☐ Tedlar®

Sample Containers Intact: ☑ Yes ☐ No

Trip Blank ☐ Yes ☑ No

Chain-of-Custody (COC):

Received: ☑ Yes ☐ No

Samplers Name: ☑ Yes ☐ No

Container Labels match COC: ☑ Yes ☐ No

COC documents received complete: ☑ Yes ☐ No

Proper Preservation Noted: ☑ Yes ☐ No

Completed By: Janet Chin

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

ANALYTICAL SUMMARY REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-02-2	2203104-01	Solid	03/09/2022 08:42	03/10/2022 15:33
B-05-2	2203104-02	Solid	03/09/2022 09:39	03/10/2022 15:33
B-08-2	2203104-03	Solid	03/09/2022 10:15	03/10/2022 15:33
B-09-2	2203104-04	Solid	03/09/2022 10:50	03/10/2022 15:33
B-03-2	2203104-05	Solid	03/09/2022 11:50	03/10/2022 15:33
B-03-4	2203104-06	Solid	03/09/2022 13:13	03/10/2022 15:33
B-03-5	2203104-07	Solid	03/09/2022 13:20	03/10/2022 15:33
B-02-4	2203104-08	Solid	03/09/2022 13:54	03/10/2022 15:33
B-02-5	2203104-09	Solid	03/09/2022 14:05	03/10/2022 15:33
B-05-4	2203104-10	Solid	03/09/2022 14:36	03/10/2022 15:33
B-05-4.5	2203104-11	Solid	03/09/2022 14:48	03/10/2022 15:33
B-08-4	2203104-12	Solid	03/09/2022 14:57	03/10/2022 15:33
B-08-5	2203104-13	Solid	03/09/2022 15:00	03/10/2022 15:33
B-09-4	2203104-14	Solid	03/10/2022 07:58	03/10/2022 15:33
B-09-4 Dup	2203104-15	Solid	03/10/2022 07:59	03/10/2022 15:33
B-09-5	2203104-16	Solid	03/10/2022 08:10	03/10/2022 15:33
B-06-2	2203104-17	Solid	03/10/2022 08:45	03/10/2022 15:33
B-06-4	2203104-18	Solid	03/10/2022 09:11	03/10/2022 15:33
B-06-5	2203104-19	Solid	03/10/2022 09:21	03/10/2022 15:33
B-04-2	2203104-20	Solid	03/10/2022 10:21	03/10/2022 15:33
B-04-2 Dup	2203104-21	Solid	03/10/2022 10:21	03/10/2022 15:33
B-04-4	2203104-22	Solid	03/10/2022 10:46	03/10/2022 15:33
B-04-5	2203104-23	Solid	03/10/2022 11:04	03/10/2022 15:33
B-11-2	2203104-24	Solid	03/10/2022 13:08	03/10/2022 15:33
B-11-2 Dup	2203104-25	Solid	03/10/2022 13:08	03/10/2022 15:33
B-11-4	2203104-26	Solid	03/10/2022 13:31	03/10/2022 15:33
B-11--5	2203104-27	Solid	03/10/2022 13:35	03/10/2022 15:33
Drum 1	2203104-28	Solid	03/10/2022 14:30	03/10/2022 15:33
Drum 2	2203104-29	Solid	03/10/2022 14:35	03/10/2022 15:33

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amolk Brar

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

ANALYTICAL SUMMARY REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Decon	2203104-30	Water	03/10/2022 14:42	03/10/2022 15:33
Comp Drum 1 & Drum 2	2203104-31	Solid	03/10/2022 00:00	03/10/2022 15:33

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-02-2

Laboratory Sample ID: 2203104-01 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**13.4**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 18:03	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 18:03	DW	8015B
Surrogate: Chlorobenzene			*102 %*		*70-120*	3550B	03/11/2022 18:03	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Acenaphthylene	**19.3**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Anthracene	**21.8**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Benzo(a)anthracene	**87.5**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Chrysene	**93.3**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Fluoranthene	**128**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Indeno (1,2,3-cd) pyrene	**23.5**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Phenanthrene	**122**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Pyrene	**166**		5.00	ug/kg	1	3550 SV	03/14/2022 12:32	AY	8270C
Surrogate: Nitrobenzene-d5			*45.7 %*		*35-114*	3550 SV	03/14/2022 12:32	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*27.0 %*		*21-105*	3550 SV	03/14/2022 12:32	AY	*8270C*

Analytical Results

Client Sample ID: B-05-2

Laboratory Sample ID: 2203104-02 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**8.22**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 18:45	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 18:45	DW	8015B
Surrogate: Chlorobenzene			*101 %*		*70-120*	3550B	03/11/2022 18:45	DW	*8015B*

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-05-2

Laboratory Sample ID: 2203104-02 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Benzo(a)anthracene	**14.2**		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Chrysene	**8.33**		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 13:59	AY	8270C
Surrogate: Nitrobenzene-d5			*46.7 %*	*35-114*		3550 SV	03/14/2022 13:59	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*29.4 %*	*21-105*		3550 SV	03/14/2022 13:59	AY	*8270C*

Analytical Results

Client Sample ID: B-08-2

Laboratory Sample ID: 2203104-03 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**1.70**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 19:26	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 19:26	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 19:26	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C

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Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-08-2

Laboratory Sample ID: 2203104-03 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 14:28	AY	8270C
Surrogate: Nitrobenzene-d5			*36.4 %*	*35-114*		3550 SV	03/14/2022 14:28	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*25.2 %*	*21-105*		3550 SV	03/14/2022 14:28	AY	*8270C*

Analytical Results

Client Sample ID: B-09-2

Laboratory Sample ID: 2203104-04 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**0.724**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 20:08	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 20:08	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/11/2022 20:08	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C

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Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-09-2

Laboratory Sample ID: 2203104-04 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 16:27	AY	8270C
Surrogate: Nitrobenzene-d5			*43.9 %*	*35-114*		3550 SV	03/14/2022 16:27	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*28.2 %*	*21-105*		3550 SV	03/14/2022 16:27	AY	*8270C*

Analytical Results

Client Sample ID: B-03-2

Laboratory Sample ID: 2203104-05 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**21.4**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 20:50	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 20:50	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 20:50	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Acenaphthylene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Anthracene	**10.3**		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Benzo(a)anthracene	**33.0**		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Benzo[a]pyrene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Benzo[b]fluoranthene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Benzo(ghi)perylene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Benzo[k]fluoranthene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Chrysene	**21.3**		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Dibenz(a,h)anthracene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Fluoranthene	**58.0**		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Fluorene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Naphthalene	ND		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Phenanthrene	**34.0**		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Pyrene	**60.0**		10.0	ug/kg	1	3550 SV	03/14/2022 16:56	AY	8270C
Surrogate: Nitrobenzene-d5			*57.8 %*	*35-114*		3550 SV	03/14/2022 16:56	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*37.2 %*	*21-105*		3550 SV	03/14/2022 16:56	AY	*8270C*

Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-03-4

Laboratory Sample ID: 2203104-06 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**6.33**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 21:32	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 21:32	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 21:32	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Acenaphthylene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Benzo(a)anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Benzo[a]pyrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Benzo[b]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Benzo(ghi)perylene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Benzo[k]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Chrysene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Dibenz(a,h)anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Fluoranthene	**23.0**		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Fluorene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Naphthalene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Phenanthrene	**15.5**		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Pyrene	**29.5**		15.0	ug/kg	1	3550 SV	03/14/2022 17:25	AY	8270C
Surrogate: Nitrobenzene-d5			*102 %*	*35-114*		3550 SV	03/14/2022 17:25	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*38.4 %*	*21-105*		3550 SV	03/14/2022 17:25	AY	*8270C*

Analytical Results

Client Sample ID: B-03-5

Laboratory Sample ID: 2203104-07 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**6.66**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 22:13	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 22:13	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 22:13	DW	*8015B*

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-03-5

Laboratory Sample ID: 2203104-07 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Fluoranthene	**8.83**		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Phenanthrene	**5.17**		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Pyrene	**10.2**		5.00	ug/kg	1	3550 SV	03/14/2022 17:55	AY	8270C
Surrogate: Nitrobenzene-d5			*40.7 %*	*35-114*		3550 SV	03/14/2022 17:55	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*25.2 %*	*21-105*		3550 SV	03/14/2022 17:55	AY	*8270C*

Analytical Results

Client Sample ID: B-02-4

Laboratory Sample ID: 2203104-08 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**17.8**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	**37.9**		10.0	mg/kg	1	3550B	03/11/2022 22:55	DW	8015B
Oil Range Organics	**50.0**		50.0	mg/kg	1	3550B	03/11/2022 22:55	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/11/2022 22:55	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Acenaphthylene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Benzo(a)anthracene	**22.0**		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Benzo[a]pyrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Benzo[b]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Benzo(ghi)perylene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-02-4

Laboratory Sample ID: 2203104-08 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Benzo[k]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Chrysene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Dibenz(a,h)anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Fluoranthene	**23.0**		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Fluorene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Naphthalene	**22.5**		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Phenanthrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Pyrene	**29.5**		15.0	ug/kg	1	3550 SV	03/14/2022 18:24	AY	8270C
Surrogate: Nitrobenzene-d5			*56.7 %*	*35-114*		3550 SV	03/14/2022 18:24	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*51.6 %*	*21-105*		3550 SV	03/14/2022 18:24	AY	*8270C*

Analytical Results

Client Sample ID: B-02-5

Laboratory Sample ID: 2203104-09 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**6.21**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20635		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 23:37	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 23:37	DW	8015B
Surrogate: Chlorobenzene			*102 %*	*70-120*		3550B	03/11/2022 23:37	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-02-5

Laboratory Sample ID: 2203104-09 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID: BC20564			Prepared: 03/14/2022 09:03		
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 18:53	AY	8270C
Surrogate: Nitrobenzene-d5			*41.7 %*	*35-114*		3550 SV	03/14/2022 18:53	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*25.2 %*	*21-105*		3550 SV	03/14/2022 18:53	AY	*8270C*

Analytical Results

Client Sample ID: B-05-4

Laboratory Sample ID: 2203104-10 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID: BC20577			Prepared: 03/11/2022 15:29		
Lead	**5.25**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID: BC20492			Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 00:19	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 00:19	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/12/2022 00:19	DW	*8015B*
8270 PAH SIM				Batch ID: BC20564			Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 19:23	AY	8270C
Surrogate: Nitrobenzene-d5			*42.5 %*	*35-114*		3550 SV	03/14/2022 19:23	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*25.2 %*	*21-105*		3550 SV	03/14/2022 19:23	AY	*8270C*

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-05-4.5

Laboratory Sample ID: 2203104-11 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**12.0**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20492		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 01:01	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 01:01	DW	8015B
Surrogate: Chlorobenzene			*102 %*	*70-120*		3550B	03/12/2022 01:01	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Acenaphthylene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Benzo(a)anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Benzo[a]pyrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Benzo[b]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Benzo(ghi)perylene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Benzo[k]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Chrysene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Dibenz(a,h)anthracene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Fluorene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Naphthalene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Phenanthrene	ND		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Pyrene	**15.0**		15.0	ug/kg	1	3550 SV	03/14/2022 19:52	AY	8270C
Surrogate: Nitrobenzene-d5			*74.1 %*	*35-114*		3550 SV	03/14/2022 19:52	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*43.2 %*	*21-105*		3550 SV	03/14/2022 19:52	AY	*8270C*

Analytical Results

Client Sample ID: B-08-4

Laboratory Sample ID: 2203104-12 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**1.90**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20492		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 01:42	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 01:42	DW	8015B
Surrogate: Chlorobenzene			*102 %*	*70-120*		3550B	03/12/2022 01:42	DW	*8015B*

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-08-4

Laboratory Sample ID: 2203104-12 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:21	AY	8270C
Surrogate: Nitrobenzene-d5			*38.4 %*	*35-114*		3550 SV	03/14/2022 20:21	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*25.2 %*	*21-105*		3550 SV	03/14/2022 20:21	AY	*8270C*

Analytical Results

Client Sample ID: B-08-5

Laboratory Sample ID: 2203104-13 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**1.66**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20492		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 02:24	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 02:24	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/12/2022 02:24	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-08-5

Laboratory Sample ID: 2203104-13 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 20:50	AY	8270C
Surrogate: Nitrobenzene-d5			*45.2 %*	*35-114*		3550 SV	03/14/2022 20:50	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*23.3 %*	*21-105*		3550 SV	03/14/2022 20:50	AY	*8270C*

Analytical Results

Client Sample ID: B-09-4

Laboratory Sample ID: 2203104-14 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**3.61**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 18:06	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 18:06	DW	8015B
Surrogate: Chlorobenzene			*105 %*	*70-120*		3550B	03/11/2022 18:06	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C

Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
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Citadel Environmental Services, Inc. 1725 Victory Boulevard Glendale CA, 91201	Project: Soil Sampling Casitas Ave. Project Number: 1954.1001.0 Project Manager: Nalinna Rasu	Work Order No: 2203104 **Reported:** 03/18/2022 17:56

Analytical Results

Client Sample ID: B-09-4

Laboratory Sample ID: 2203104-14 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:19	AY	8270C
Surrogate: Nitrobenzene-d5			*51.0 %*		*35-114*	3550 SV	03/14/2022 21:19	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*26.3 %*		*21-105*	3550 SV	03/14/2022 21:19	AY	*8270C*

Analytical Results

Client Sample ID: B-09-4 Dup

Laboratory Sample ID: 2203104-15 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20577		Prepared: 03/11/2022 15:29		
Lead	**1.94**		0.250	mg/kg	1	3050B	03/14/2022 13:08	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 18:48	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 18:48	DW	8015B
Surrogate: Chlorobenzene			*98.8 %*		*70-120*	3550B	03/11/2022 18:48	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 21:49	AY	8270C
Surrogate: Nitrobenzene-d5			*50.5 %*		*35-114*	3550 SV	03/14/2022 21:49	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*24.8 %*		*21-105*	3550 SV	03/14/2022 21:49	AY	*8270C*

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Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-09-5

Laboratory Sample ID: 2203104-16 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**0.671**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 19:31	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 19:31	DW	8015B
Surrogate: Chlorobenzene			*102 %*	*70-120*		3550B	03/11/2022 19:31	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:18	AY	8270C
Surrogate: Nitrobenzene-d5			*39.2 %*	*35-114*		3550 SV	03/14/2022 22:18	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*21.3 %*	*21-105*		3550 SV	03/14/2022 22:18	AY	*8270C*

Analytical Results

Client Sample ID: B-06-2

Laboratory Sample ID: 2203104-17 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**1.56**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 20:13	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 20:13	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 20:13	DW	*8015B*

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-06-2

Laboratory Sample ID: 2203104-17 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 22:47	AY	8270C
Surrogate: Nitrobenzene-d5			*41.7 %*		*35-114*	3550 SV	03/14/2022 22:47	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*22.7 %*		*21-105*	3550 SV	03/14/2022 22:47	AY	*8270C*

Analytical Results

Client Sample ID: B-06-4

Laboratory Sample ID: 2203104-18 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**3.71**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 20:56	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 20:56	DW	8015B
Surrogate: Chlorobenzene			*104 %*		*70-120*	3550B	03/11/2022 20:56	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-06-4

Laboratory Sample ID: 2203104-18 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:17	AY	8270C
Surrogate: Nitrobenzene-d5			*39.5 %*	*35-114*		3550 SV	03/14/2022 23:17	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*22.0 %*	*21-105*		3550 SV	03/14/2022 23:17	AY	*8270C*

Analytical Results

Client Sample ID: B-06-5

Laboratory Sample ID: 2203104-19 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**2.91**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 21:39	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 21:39	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 21:39	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C

Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-06-5

Laboratory Sample ID: 2203104-19 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/14/2022 23:46	AY	8270C
Surrogate: Nitrobenzene-d5			*43.3 %*	*35-114*		3550 SV	03/14/2022 23:46	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*22.3 %*	*21-105*		3550 SV	03/14/2022 23:46	AY	*8270C*

Analytical Results

Client Sample ID: B-04-2

Laboratory Sample ID: 2203104-20 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**3.72**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 22:21	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 22:21	DW	8015B
Surrogate: Chlorobenzene			*102 %*	*70-120*		3550B	03/11/2022 22:21	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Acenaphthylene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Anthracene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Benzo(a)anthracene	**11.7**		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Benzo[a]pyrene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Benzo[b]fluoranthene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Benzo(ghi)perylene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Benzo[k]fluoranthene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Chrysene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Dibenz(a,h)anthracene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Fluoranthene	**11.0**		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Fluorene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Naphthalene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Phenanthrene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Pyrene	**12.7**		10.0	ug/kg	1	3550 SV	03/15/2022 00:15	AY	8270C
Surrogate: Nitrobenzene-d5			*88.0 %*	*35-114*		3550 SV	03/15/2022 00:15	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*38.4 %*	*21-105*		3550 SV	03/15/2022 00:15	AY	*8270C*

Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-04-2 Dup

Laboratory Sample ID: 2203104-21 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**9.27**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 23:04	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 23:04	DW	8015B
Surrogate: Chlorobenzene			*101 %*	*70-120*		3550B	03/11/2022 23:04	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Acenaphthylene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Anthracene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Benzo(a)anthracene	**10.3**		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Benzo[a]pyrene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Benzo[b]fluoranthene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Benzo(ghi)perylene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Benzo[k]fluoranthene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Chrysene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Dibenz(a,h)anthracene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Fluoranthene	**13.0**		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Fluorene	**13.0**		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Naphthalene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Phenanthrene	ND		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Pyrene	**14.0**		10.0	ug/kg	1	3550 SV	03/15/2022 00:44	AY	8270C
Surrogate: Nitrobenzene-d5			*55.2 %*	*35-114*		3550 SV	03/15/2022 00:44	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*23.6 %*	*21-105*		3550 SV	03/15/2022 00:44	AY	*8270C*

Analytical Results

Client Sample ID: B-04-4

Laboratory Sample ID: 2203104-22 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**29.5**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20636		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/11/2022 23:46	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/11/2022 23:46	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/11/2022 23:46	DW	*8015B*

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-04-4

Laboratory Sample ID: 2203104-22 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:13	AY	8270C
Surrogate: Nitrobenzene-d5			*42.9 %*	*35-114*		3550 SV	03/15/2022 01:13	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*23.0 %*	*21-105*		3550 SV	03/15/2022 01:13	AY	*8270C*

Analytical Results

Client Sample ID: B-04-5

Laboratory Sample ID: 2203104-23 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**6.33**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20637		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 00:29	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 00:29	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/12/2022 00:29	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C

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Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc. 1725 Victory Boulevard Glendale CA, 91201	Project: Soil Sampling Casitas Ave. Project Number: 1954.1001.0 Project Manager: Nalinna Rasu	Work Order No: 2203104 **Reported:** 03/18/2022 17:56

Analytical Results

Client Sample ID: B-04-5

Laboratory Sample ID: 2203104-23 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 01:42	AY	8270C
Surrogate: Nitrobenzene-d5			*40.3 %*	*35-114*		3550 SV	03/15/2022 01:42	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*21.7 %*	*21-105*		3550 SV	03/15/2022 01:42	AY	*8270C*

Analytical Results

Client Sample ID: B-11-2

Laboratory Sample ID: 2203104-24 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**16.3**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20637		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 01:12	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 01:12	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/12/2022 01:12	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Acenaphthylene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Anthracene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Benzo(a)anthracene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Benzo[a]pyrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Benzo[b]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Benzo(ghi)perylene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Benzo[k]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Chrysene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Dibenz(a,h)anthracene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Fluorene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Naphthalene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-11-2

Laboratory Sample ID: 2203104-24 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Phenanthrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Pyrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:11	AY	8270C
Surrogate: Nitrobenzene-d5			*66.0 %*		*35-114*	3550 SV	03/15/2022 02:11	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*45.0 %*		*21-105*	3550 SV	03/15/2022 02:11	AY	*8270C*

Analytical Results

Client Sample ID: B-11-2 Dup

Laboratory Sample ID: 2203104-25 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**16.9**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20637		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 06:10	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 06:10	DW	8015B
Surrogate: Chlorobenzene			*105 %*		*70-120*	3550B	03/12/2022 06:10	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Acenaphthylene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Anthracene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Benzo(a)anthracene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Benzo[a]pyrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Benzo[b]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Benzo(ghi)perylene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Benzo[k]fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Chrysene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Dibenz(a,h)anthracene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Fluoranthene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Fluorene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Naphthalene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Phenanthrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Pyrene	ND		15.0	ug/kg	1	3550 SV	03/15/2022 02:40	AY	8270C
Surrogate: Nitrobenzene-d5			*46.8 %*		*35-114*	3550 SV	03/15/2022 02:40	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*32.4 %*		*21-105*	3550 SV	03/15/2022 02:40	AY	*8270C*

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-11-4

Laboratory Sample ID: 2203104-26 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**1.01**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20637		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 06:52	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 06:52	DW	8015B
Surrogate: Chlorobenzene			*105 %*	*70-120*		3550B	03/12/2022 06:52	DW	*8015B*
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:09	AY	8270C
Surrogate: Nitrobenzene-d5			*42.9 %*	*35-114*		3550 SV	03/15/2022 03:09	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*25.1 %*	*21-105*		3550 SV	03/15/2022 03:09	AY	*8270C*

Analytical Results

Client Sample ID: B-11--5

Laboratory Sample ID: 2203104-27 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Lead	**2.93**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20637		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 07:35	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 07:35	DW	8015B
Surrogate: Chlorobenzene			*103 %*	*70-120*		3550B	03/12/2022 07:35	DW	*8015B*

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: B-11--5

Laboratory Sample ID: 2203104-27 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
8270 PAH SIM				Batch ID:	BC20564		Prepared: 03/14/2022 09:03		
Acenaphthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Acenaphthylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Benzo(a)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Benzo[a]pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Benzo[b]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Benzo(ghi)perylene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Benzo[k]fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Chrysene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Dibenz(a,h)anthracene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Fluoranthene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Fluorene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Indeno (1,2,3-cd) pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Naphthalene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Phenanthrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Pyrene	ND		5.00	ug/kg	1	3550 SV	03/15/2022 03:39	AY	8270C
Surrogate: Nitrobenzene-d5			*49.3 %*	*35-114*		3550 SV	03/15/2022 03:39	AY	*8270C*
Surrogate: 1,4-Dioxane-d8			*27.8 %*	*21-105*		3550 SV	03/15/2022 03:39	AY	*8270C*

Analytical Results

Client Sample ID: Drum 1

Laboratory Sample ID: 2203104-28 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20634		Prepared: 03/11/2022 09:00		
Acetone	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Benzene	ND		2.00	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Bromobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Bromochloromethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Bromodichloromethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Bromoform	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Bromomethane	ND		30.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
2-Butanone	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
n-Butylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
sec-Butylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
tert-Butylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Carbon disulfide	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Carbon tetrachloride	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Chlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B

Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Drum 1

Laboratory Sample ID: 2203104-28 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20634		Prepared: 03/11/2022 09:00		
Chloroethane	ND		30.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
2-Chloroethylvinyl Ether	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Chloroform	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Chloromethane	ND		30.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
4-Chlorotoluene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
2-Chlorotoluene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2-Dibromo-3-chloropropane	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Dibromochloromethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2-Dibromoethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Dibromomethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2-Dichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,3-Dichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,4-Dichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Dichlorodifluoromethane	ND		30.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1-Dichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2-Dichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1-Dichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
cis-1,2-Dichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
trans-1,2-Dichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1-Dichloropropene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2-Dichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,3-Dichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
2,2-Dichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
cis-1,3-Dichloropropene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
trans-1,3-Dichloropropene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Ethylbenzene	ND		2.00	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Hexachlorobutadiene	ND		30.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
2-Hexanone	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Isopropylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
p-Isopropyltoluene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Methyl tert-Butyl Ether (MTBE)	ND		5.00	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
4-Methyl-2-pentanone (MIBK)	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Methylene chloride	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Naphthalene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
n-Propylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Styrene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1,1,2-Tetrachloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1,2,2-Tetrachloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Tetrachloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Toluene	ND		2.00	ug/kg	1	5035	03/12/2022 00:31	DW	8260B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Drum 1

Laboratory Sample ID: 2203104-28 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20634		Prepared: 03/11/2022 09:00		
1,2,3-Trichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2,4-Trichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1,1-Trichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,1,2-Trichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Trichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Trichlorofluoromethane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2,3-Trichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,2,4-Trimethylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
1,3,5- Trimethylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Vinyl acetate	ND		50.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Vinyl chloride	ND		30.0	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
m,p-Xylenes	ND		4.00	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
o-Xylene	ND		2.00	ug/kg	1	5035	03/12/2022 00:31	DW	8260B
Surrogate: 4-Bromofluorobenzene			*117 %*	*70-120*		5035	03/12/2022 00:31	DW	*8260B*
Surrogate: Dibromofluoromethane			*116 %*	*70-120*		5035	03/12/2022 00:31	DW	*8260B*
Surrogate: Toluene-d8			*98.9 %*	*70-120*		5035	03/12/2022 00:31	DW	*8260B*

Analytical Results

Client Sample ID: Drum 2

Laboratory Sample ID: 2203104-29 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20634		Prepared: 03/11/2022 09:00		
Acetone	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Benzene	ND		2.00	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Bromobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Bromochloromethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Bromodichloromethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Bromoform	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Bromomethane	ND		30.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
2-Butanone	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
n-Butylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
sec-Butylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
tert-Butylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Carbon disulfide	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Carbon tetrachloride	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Chlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Chloroethane	ND		30.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
2-Chloroethylvinyl Ether	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B

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Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Drum 2

Laboratory Sample ID: 2203104-29 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20634		Prepared: 03/11/2022 09:00		
Chloroform	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Chloromethane	ND		30.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
4-Chlorotoluene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
2-Chlorotoluene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2-Dibromo-3-chloropropane	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Dibromochloromethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2-Dibromoethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Dibromomethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2-Dichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,3-Dichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,4-Dichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Dichlorodifluoromethane	ND		30.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,1-Dichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2-Dichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,1-Dichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
cis-1,2-Dichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
trans-1,2-Dichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,1-Dichloropropene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2-Dichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,3-Dichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
2,2-Dichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
cis-1,3-Dichloropropene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
trans-1,3-Dichloropropene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Ethylbenzene	ND		2.00	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Hexachlorobutadiene	ND		30.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
2-Hexanone	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Isopropylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
p-Isopropyltoluene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Methyl tert-Butyl Ether (MTBE)	ND		5.00	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
4-Methyl-2-pentanone (MIBK)	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Methylene chloride	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Naphthalene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
n-Propylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Styrene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,1,1,2-Tetrachloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,1,2,2-Tetrachloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Tetrachloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Toluene	ND		2.00	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2,3-Trichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2,4-Trichlorobenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B

Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	Reported:
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Drum 2

Laboratory Sample ID: 2203104-29 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20634		Prepared: 03/11/2022 09:00		
1,1,1-Trichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,1,2-Trichloroethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Trichloroethene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Trichlorofluoromethane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2,3-Trichloropropane	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,2,4-Trimethylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
1,3,5- Trimethylbenzene	ND		10.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Vinyl acetate	ND		50.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Vinyl chloride	ND		30.0	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
m,p-Xylenes	ND		4.00	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
o-Xylene	ND		2.00	ug/kg	1	5035	03/12/2022 01:01	DW	8260B
Surrogate: 4-Bromofluorobenzene			*108 %*		*70-120*	5035	03/12/2022 01:01	DW	*8260B*
Surrogate: Dibromofluoromethane			*118 %*		*70-120*	5035	03/12/2022 01:01	DW	*8260B*
Surrogate: Toluene-d8			*100 %*		*70-120*	5035	03/12/2022 01:01	DW	*8260B*

Analytical Results

Client Sample ID: Decon

Laboratory Sample ID: 2203104-30 (Water)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total Mercury (CVAA)				Batch ID:	BC20581		Prepared: 03/16/2022 11:47		
Mercury	ND		0.0005	mg/L	1	7470A	03/16/2022 16:52	LVE	7470A
Total ICP Metals				Batch ID:	BC20580		Prepared: 03/16/2022 10:43		
Antimony	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Arsenic	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Barium	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Beryllium	ND		0.0050	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Cadmium	ND		0.0050	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Chromium	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Cobalt	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Copper	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Lead	ND		0.0050	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Molybdenum	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Nickel	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Selenium	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Silver	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Thallium	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Vanadium	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Decon

Laboratory Sample ID: 2203104-30 (Water)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total ICP Metals				Batch ID:	BC20580		Prepared: 03/16/2022 10:43		
Zinc	ND		0.0100	mg/L	1	3010A	03/16/2022 19:23	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH-g)				Batch ID:	BC20626		Prepared: 03/11/2022 11:00		
Gasoline Range Organics	ND		50.0	ug/L	1	5030B	03/11/2022 21:28	DW	8015B
Surrogate: Bromofluorobenzene			*91.0 %*	*70-120*		5030B	03/11/2022 21:28	DW	*8015B*
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20624		Prepared: 03/14/2022 09:00		
Diesel range organics	ND		0.500	mg/L	1	3510C-LE	03/16/2022 03:02	DW	8015B
Oil Range Organics	ND		0.500	mg/L	1	3510C-LE	03/16/2022 03:02	DW	8015B
Surrogate: Chlorobenzene			*100 %*	*70-120*		3510C-LE	03/16/2022 03:02	DW	*8015B*
Volatile Organic Compounds				Batch ID:	BC20510		Prepared: 03/14/2022 09:00		
Acetone	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Benzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Bromobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Bromochloromethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Bromodichloromethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Bromoform	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Bromomethane	ND		3.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
2-Butanone (MEK)	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
n-Butylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
sec-Butylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
tert-Butylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Carbon disulfide	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Carbon tetrachloride	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Chlorobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Chloroethane	ND		3.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
2-Chloroethyl vinyl ether	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Chloroform	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Chloromethane	ND		3.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
4-Chlorotoluene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
2-Chlorotoluene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Dibromochloromethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2-Dibromoethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Dibromomethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2-Dichlorobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,3-Dichlorobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,4-Dichlorobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Dichlorodifluoromethane	ND		3.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1-Dichloroethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B

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Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	Reported:
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Decon

Laboratory Sample ID: 2203104-30 (Water)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20510		Prepared: 03/14/2022 09:00		
1,2-Dichloroethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1-Dichloroethene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2-Dichloropropane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,3-Dichloropropane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
2,2-Dichloropropane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1-Dichloropropene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Ethylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Hexachlorobutadiene	ND		3.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
2-Hexanone	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Isopropylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
p-Isopropyltoluene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Methyl tert-Butyl Ether (MTBE)	ND		2.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
4-Methyl-2-pentanone (MIBK)	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Methylene chloride	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Naphthalene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
n-Propylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Styrene	ND		2.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Tetrachloroethene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Toluene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1,1-Trichloroethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,1,2-Trichloroethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Trichloroethene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Trichlorofluoromethane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2,3-Trichloropropane	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,2,4- Trimethylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
1,3,5- Trimethylbenzene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Vinyl acetate	ND		5.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Vinyl chloride	ND		3.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
o-Xylene	ND		1.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
m,p-Xylenes	ND		2.00	ug/L	1	5030B	03/14/2022 23:37	DW	8260B
Surrogate: 4-Bromofluorobenzene			*112 %*	*70-120*		5030B	03/14/2022 23:37	DW	*8260B*

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Amolk Brar, Lab Director

American Scientific Laboratories, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Analytical Results

Client Sample ID: Decon

Laboratory Sample ID: 2203104-30 (Water)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Volatile Organic Compounds				Batch ID:	BC20510		Prepared: 03/14/2022 09:00		
Surrogate: Dibromofluoromethane			*93.6 %*	*70-120*		5030B	03/14/2022 23:37	DW	*8260B*
Surrogate: Toluene-d8			*98.9 %*	*70-120*		5030B	03/14/2022 23:37	DW	*8260B*

Analytical Results

Client Sample ID: Comp Drum 1 & Drum 2

Laboratory Sample ID: 2203104-31 (Solid)

Analyte	Result	Notes	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Total Mercury (CVAA)				Batch ID:	BC20579		Prepared: 03/11/2022 15:39		
Mercury	ND		0.0500	mg/kg	1	7471A	03/14/2022 12:40	LVE	7471A
Total ICP Metals				Batch ID:	BC20578		Prepared: 03/11/2022 15:32		
Antimony	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Arsenic	**0.778**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Barium	**42.1**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Beryllium	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Cadmium	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Chromium	**4.46**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Cobalt	**3.02**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Copper	**7.90**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Lead	**8.09**		0.250	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Molybdenum	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Nickel	**3.51**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Selenium	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Silver	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Thallium	ND		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Vanadium	**12.4**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Zinc	**26.2**		0.500	mg/kg	1	3050B	03/14/2022 14:10	LVE	SW846 6010B
Total Petroleum Hydrocarbons(TPH-g)				Batch ID:	BC20627		Prepared: 03/11/2022 09:00		
Gasoline Range Organics	ND		500	ug/kg	1	5030A	03/12/2022 04:43	DW	8015B
Surrogate: Bromofluorobenzene			*77.2 %*	*70-120*		5030A	03/12/2022 04:43	DW	*8015B*
Total Petroleum Hydrocarbons(TPH DROORO)				Batch ID:	BC20637		Prepared: 03/11/2022 09:00		
Diesel range organics	ND		10.0	mg/kg	1	3550B	03/12/2022 08:18	DW	8015B
Oil Range Organics	ND		50.0	mg/kg	1	3550B	03/12/2022 08:18	DW	8015B
Surrogate: Chlorobenzene			*104 %*	*70-120*		3550B	03/12/2022 08:18	DW	*8015B*

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc. 1725 Victory Boulevard Glendale CA, 91201	Project: Soil Sampling Casitas Ave. Project Number: 1954.1001.0 Project Manager: Nalinna Rasu	Work Order No: 2203104 **Reported:** 03/18/2022 17:56

Total Mercury (CVAA) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20579 - 7471A - 7471A										
Blank (BC20579-BLK1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Mercury	ND	0.0500	mg/kg							
LCS (BC20579-BS1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Mercury	0.112	0.0500	mg/kg	0.100		112	80-120			
LCS Dup (BC20579-BSD1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Mercury	0.0998	0.0500	mg/kg	0.100		99.8	80-120	11.6	20	
Batch BC20581 - 7470A - 7470A										
Blank (BC20581-BLK1)				Prepared & Analyzed: 03/16/202						
Mercury	ND	0.0005	mg/L							
LCS (BC20581-BS1)				Prepared & Analyzed: 03/16/202						
Mercury	0.098	0.050	mg/L	0.100		97.6	80-120			
LCS Dup (BC20581-BSD1)				Prepared & Analyzed: 03/16/202						
Mercury	0.107	0.050	mg/L	0.100		107	80-120	9.37	20	

Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total ICP Metals - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20577 - 3050B - SW846 6010B										
Blank (BC20577-BLK1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Lead	ND	0.250	mg/kg							
LCS (BC20577-BS1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Lead	0.920	0.00500	mg/kg	1.00		92.0	80-120			
LCS Dup (BC20577-BSD1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Lead	0.922	0.00500	mg/kg	1.00		92.2	80-120	0.116	20	
Batch BC20578 - 3050B - SW846 6010B										
Blank (BC20578-BLK1)				Prepared: 03/11/202 Analyzed: 03/14/202						
Antimony	ND	0.500	mg/kg							
Arsenic	ND	0.250	"							
Barium	ND	0.500	"							
Beryllium	ND	0.500	"							
Cadmium	ND	0.500	"							
Chromium	ND	0.500	"							
Cobalt	ND	0.500	"							
Copper	ND	0.500	"							
Lead	ND	0.250	"							
Molybdenum	ND	0.500	"							
Nickel	ND	0.500	"							
Selenium	ND	0.500	"							
Silver	ND	0.500	"							
Thallium	ND	0.500	"							
Vanadium	ND	0.500	"							
Zinc	ND	0.500	"							

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total ICP Metals - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20578 - 3050B - SW846 6010B										
LCS (BC20578-BS1)					Prepared: 03/11/202 Analyzed: 03/14/202					
Antimony	0.893	0.0100	mg/kg	1.00		89.3	80-120			
Arsenic	0.871	0.00500	"	1.00		87.1	80-120			
Barium	0.911	0.0100	"	1.00		91.1	80-120			
Beryllium	0.959	0.0100	"	1.00		95.9	80-120			
Cadmium	0.901	0.0100	"	1.00		90.1	80-120			
Chromium	0.890	0.0100	"	1.00		89.0	80-120			
Cobalt	0.904	0.0100	"	1.00		90.4	80-120			
Copper	0.935	0.0100	"	1.00		93.5	80-120			
Lead	0.893	0.00500	"	1.00		89.3	80-120			
Molybdenum	0.875	0.0100	"	1.00		87.5	80-120			
Nickel	0.898	0.0100	"	1.00		89.8	80-120			
Selenium	0.893	0.0100	"	1.00		89.3	80-120			
Silver	0.917	0.0100	"	1.00		91.7	80-120			
Thallium	0.924	0.0100	"	1.00		92.4	80-120			
Vanadium	0.912	0.0100	"	1.00		91.2	80-120			
Zinc	1.00	0.0100	"	1.00		100	80-120			
LCS Dup (BC20578-BSD1)					Prepared: 03/11/202 Analyzed: 03/14/202					
Antimony	0.884	0.0100	mg/kg	1.00		88.4	80-120	0.979	20	
Arsenic	0.881	0.00500	"	1.00		88.1	80-120	1.16	20	
Barium	0.915	0.0100	"	1.00		91.5	80-120	0.455	20	
Beryllium	0.964	0.0100	"	1.00		96.4	80-120	0.586	20	
Cadmium	0.909	0.0100	"	1.00		90.9	80-120	0.880	20	
Chromium	0.897	0.0100	"	1.00		89.7	80-120	0.682	20	
Cobalt	0.913	0.0100	"	1.00		91.3	80-120	0.910	20	
Copper	0.943	0.0100	"	1.00		94.3	80-120	0.778	20	
Lead	0.898	0.00500	"	1.00		89.8	80-120	0.639	20	
Molybdenum	0.882	0.0100	"	1.00		88.2	80-120	0.793	20	
Nickel	0.903	0.0100	"	1.00		90.3	80-120	0.514	20	
Selenium	0.892	0.0100	"	1.00		89.2	80-120	0.0313	20	
Silver	0.925	0.0100	"	1.00		92.5	80-120	0.805	20	
Thallium	0.927	0.0100	"	1.00		92.7	80-120	0.327	20	
Vanadium	0.919	0.0100	"	1.00		91.9	80-120	0.704	20	
Zinc	1.01	0.0100	"	1.00		101	80-120	0.518	20	

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total ICP Metals - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20580 - 3010A - SW846 6010B										
Blank (BC20580-BLK1)				Prepared & Analyzed: 03/16/202						
Antimony	ND	0.0100	mg/L							
Arsenic	ND	0.0100	"							
Barium	ND	0.0100	"							
Beryllium	ND	0.0050	"							
Cadmium	ND	0.0050	"							
Chromium	ND	0.0100	"							
Cobalt	ND	0.0100	"							
Copper	ND	0.0100	"							
Lead	ND	0.0050	"							
Molybdenum	ND	0.0100	"							
Nickel	ND	0.0100	"							
Selenium	ND	0.0100	"							
Silver	ND	0.0100	"							
Thallium	ND	0.0100	"							
Vanadium	ND	0.0100	"							
Zinc	ND	0.0100	"							
LCS (BC20580-BS1)				Prepared & Analyzed: 03/16/202						
Antimony	0.900	0.0100	mg/L	1.00		90.0	80-120			
Arsenic	0.891	0.0100	"	1.00		89.1	80-120			
Barium	0.911	0.0100	"	1.00		91.1	80-120			
Beryllium	0.987	0.0050	"	1.00		98.7	80-120			
Cadmium	0.933	0.0050	"	1.00		93.3	80-120			
Chromium	0.902	0.0100	"	1.00		90.2	80-120			
Cobalt	0.936	0.0100	"	1.00		93.6	80-120			
Copper	0.987	0.0100	"	1.00		98.7	80-120			
Lead	0.915	0.0050	"	1.00		91.5	80-120			
Molybdenum	0.884	0.0100	"	1.00		88.4	80-120			
Nickel	0.891	0.0100	"	1.00		89.1	80-120			
Selenium	0.898	0.0100	"	1.00		89.8	80-120			
Silver	0.901	0.0100	"	1.00		90.1	80-120			
Thallium	0.941	0.0100	"	1.00		94.1	80-120			
Vanadium	0.954	0.0100	"	1.00		95.4	80-120			
Zinc	1.03	0.0100	"	1.00		103	80-120			

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total ICP Metals - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20580 - 3010A - SW846 6010B										
LCS Dup (BC20580-BSD1)				Prepared & Analyzed: 03/16/202						
Antimony	0.880	0.0100	mg/L	1.00		88.0	80-120	2.22	20	
Arsenic	0.882	0.0100	"	1.00		88.2	80-120	1.02	20	
Barium	0.895	0.0100	"	1.00		89.5	80-120	1.77	20	
Beryllium	0.971	0.0050	"	1.00		97.1	80-120	1.71	20	
Cadmium	0.917	0.0050	"	1.00		91.7	80-120	1.71	20	
Chromium	0.886	0.0100	"	1.00		88.6	80-120	1.75	20	
Cobalt	0.919	0.0100	"	1.00		91.9	80-120	1.87	20	
Copper	0.971	0.0100	"	1.00		97.1	80-120	1.63	20	
Lead	0.899	0.0050	"	1.00		89.9	80-120	1.78	20	
Molybdenum	0.874	0.0100	"	1.00		87.4	80-120	1.07	20	
Nickel	0.878	0.0100	"	1.00		87.8	80-120	1.50	20	
Selenium	0.889	0.0100	"	1.00		88.9	80-120	1.02	20	
Silver	0.890	0.0100	"	1.00		89.0	80-120	1.27	20	
Thallium	0.926	0.0100	"	1.00		92.6	80-120	1.58	20	
Vanadium	0.939	0.0100	"	1.00		93.9	80-120	1.59	20	
Zinc	1.01	0.0100	"	1.00		101	80-120	1.86	20	

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total Petroleum Hydrocarbons(TPH-g) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20626 - 5030B - 8015B										
Blank (BC20626-BLK1)				Prepared & Analyzed: 03/11/202						
Gasoline Range Organics	ND	50.0	ug/L							
LCS (BC20626-BS1)				Prepared & Analyzed: 03/11/202						
Gasoline Range Organics	491		ug/L	500		98.3	75-120			
LCS Dup (BC20626-BSD1)				Prepared & Analyzed: 03/11/202						
Gasoline Range Organics	477		ug/L	500		95.4	75-120	2.96	20	
Matrix Spike (BC20626-MS1)		**Source: 2203104-30**		Prepared & Analyzed: 03/11/202						
Gasoline Range Organics	458		ug/L	500	0.00	91.5	75-120			
Matrix Spike Dup (BC20626-MSD1)		**Source: 2203104-30**		Prepared & Analyzed: 03/11/202						
Gasoline Range Organics	481		ug/L	500	0.00	96.1	75-120	4.89	15	
Batch BC20627 - 5030A - 8015B										
Blank (BC20627-BLK1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Gasoline Range Organics	ND	500	ug/kg							
LCS (BC20627-BS1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Gasoline Range Organics	470		ug/L	500		94.1	75-120			
LCS Dup (BC20627-BSD1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Gasoline Range Organics	465		ug/L	500		93.1	75-120	1.04	15	
Matrix Spike (BC20627-MS1)		**Source: 2203104-31**		Prepared: 03/11/202 Analyzed: 03/12/202						
Gasoline Range Organics	498		ug/L	500	0.00	99.7	75-120			

Amolk Brar, Lab Director

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total Petroleum Hydrocarbons(TPH-g) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20627 - 5030A - 8015B										
Matrix Spike Dup (BC20627-MSD1)	**Source: 2203104-31**		Prepared: 03/11/202 Analyzed: 03/12/202							
Gasoline Range Organics	465		ug/L	500	0.00	93.1	75-120	6.84	15	

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total Petroleum Hydrocarbons(TPH DROORO) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20492 - 3550B - 8015B										
Blank (BC20492-BLK1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	ND	10.0	mg/kg							
Oil Range Organics	ND	50.0	"							
Surrogate: Chlorobenzene	*102*		*mg/L*	*100*		*102*	*70-120*			
LCS (BC20492-BS1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	544	10.0	mg/kg	500		109	75-120			
Surrogate: Chlorobenzene	*110*		*mg/L*	*100*		*110*	*70-120*			
LCS Dup (BC20492-BSD1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	545	10.0	mg/kg	500		109	75-120	0.0478	20	
Surrogate: Chlorobenzene	*110*		*mg/L*	*100*		*110*	*70-120*			
Matrix Spike (BC20492-MS1)	**Source: 2203078-01**			Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	577	10.0	mg/kg	500	ND	115	75-120			
Surrogate: Chlorobenzene	*117*		*mg/L*	*100*		*117*	*70-120*			
Matrix Spike Dup (BC20492-MSD1)	**Source: 2203078-01**			Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	572	10.0	mg/kg	500	ND	114	75-120	0.829	20	
Surrogate: Chlorobenzene	*116*		*mg/L*	*100*		*116*	*70-120*			
Batch BC20624 - 3510C-LE - 8015B										
Blank (BC20624-BLK1)				Prepared & Analyzed: 03/15/202						
Diesel range organics	ND	0.500	mg/L							
Oil Range Organics	ND	0.500	"							
Surrogate: Chlorobenzene	*105*		*"*	*100*		*105*	*70-120*			

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Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total Petroleum Hydrocarbons(TPH DROORO) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20624 - 3510C-LE - 8015B										
LCS (BC20624-BS1)				Prepared: 03/15/202 Analyzed: 03/16/202						
Diesel range organics	571		mg/L	500		114	70-120			
Surrogate: Chlorobenzene	*104*		*"*	*100*		*104*	*70-120*			
LCS Dup (BC20624-BSD1)				Prepared: 03/15/202 Analyzed: 03/16/202						
Diesel range organics	570		mg/L	500		114	70-120	0.187	20	
Surrogate: Chlorobenzene	*104*		*"*	*100*		*104*	*70-120*			
Matrix Spike (BC20624-MS1)	**Source: 2203104-30**			Prepared: 03/15/202 Analyzed: 03/16/202						
Diesel range organics	562		mg/L	500	0.00	112	70-120			
Surrogate: Chlorobenzene	*104*		*"*	*100*		*104*	*70-120*			
Matrix Spike Dup (BC20624-MSD1)	**Source: 2203104-30**			Prepared: 03/15/202 Analyzed: 03/16/202						
Diesel range organics	572		mg/L	500	0.00	114	70-120	1.69	20	
Surrogate: Chlorobenzene	*104*		*"*	*100*		*104*	*70-120*			
Batch BC20635 - 3550B - 8015B										
Blank (BC20635-BLK1)				Prepared & Analyzed: 03/11/202						
Diesel range organics	ND	10.0	mg/kg							
Oil Range Organics	ND	50.0	"							
Surrogate: Chlorobenzene	*101*		*mg/L*	*100*		*101*	*70-120*			
LCS (BC20635-BS1)				Prepared & Analyzed: 03/11/202						
Diesel range organics	484		mg/L	500		96.8	75-120			
Surrogate: Chlorobenzene	*98.1*		*"*	*100*		*98.1*	*70-120*			
LCS Dup (BC20635-BSD1)				Prepared & Analyzed: 03/11/202						
Diesel range organics	499		mg/L	500		99.8	75-120	3.03	20	
Surrogate: Chlorobenzene	*101*		*"*	*100*		*101*	*70-120*			

Amolk Brar, Lab Director

Citadel Environmental Services, Inc. 1725 Victory Boulevard Glendale CA, 91201	Project: Soil Sampling Casitas Ave. Project Number: 1954.1001.0 Project Manager: Nalinna Rasu	Work Order No: 2203104 **Reported:** 03/18/2022 17:56

Total Petroleum Hydrocarbons(TPH DROORO) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20635 - 3550B - 8015B										
Matrix Spike (BC20635-MS1)	**Source: 2203104-01**		Prepared & Analyzed: 03/11/202							
Diesel range organics	514		mg/L	500	0.00	103	75-120			
Surrogate: Chlorobenzene	*102*		*"*	*100*		*102*	*70-120*			
Matrix Spike Dup (BC20635-MSD1)	**Source: 2203104-01**		Prepared & Analyzed: 03/11/202							
Diesel range organics	509		mg/L	500	0.00	102	75-120	0.834	20	
Surrogate: Chlorobenzene	*105*		*"*	*100*		*105*	*70-120*			
Batch BC20636 - 3550B - 8015B										
Blank (BC20636-BLK1)			Prepared & Analyzed: 03/11/202							
Diesel range organics	ND	10.0	mg/kg							
Oil Range Organics	ND	50.0	"							
Surrogate: Chlorobenzene	*104*		*mg/L*	*100*		*104*	*70-120*			
LCS (BC20636-BS1)			Prepared & Analyzed: 03/11/202							
Diesel range organics	548		mg/L	500		110	75-120			
Surrogate: Chlorobenzene	*101*		*"*	*100*		*101*	*70-120*			
LCS Dup (BC20636-BSD1)			Prepared & Analyzed: 03/11/202							
Diesel range organics	557		mg/L	500		111	75-120	1.57	20	
Surrogate: Chlorobenzene	*104*		*"*	*100*		*104*	*70-120*			
Matrix Spike (BC20636-MS1)	**Source: 2203104-14**		Prepared & Analyzed: 03/11/202							
Diesel range organics	537		mg/L	500	0.00	107	75-120			
Surrogate: Chlorobenzene	*101*		*"*	*100*		*101*	*70-120*			
Matrix Spike Dup (BC20636-MSD1)	**Source: 2203104-14**		Prepared & Analyzed: 03/11/202							
Diesel range organics	555		mg/L	500	0.00	111	75-120	3.40	20	
Surrogate: Chlorobenzene	*104*		*"*	*100*		*104*	*70-120*			

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Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Total Petroleum Hydrocarbons(TPH DROORO) - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20637 - 3550B - 8015B										
Blank (BC20637-BLK1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	ND	10.0	mg/kg							
Oil Range Organics	ND	50.0	"							
Surrogate: Chlorobenzene	*102*		*mg/L*	*100*		*102*	*70-120*			
LCS (BC20637-BS1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	574		mg/L	500		115	75-120			
Surrogate: Chlorobenzene	*108*		*"*	*100*		*108*	*70-120*			
LCS Dup (BC20637-BSD1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	561		mg/L	500		112	75-120	2.30	20	
Surrogate: Chlorobenzene	*103*		*"*	*100*		*103*	*70-120*			
Matrix Spike (BC20637-MS1)	**Source: 2203104-23**			Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	567		mg/L	500	0.00	113	75-120			
Surrogate: Chlorobenzene	*105*		*"*	*100*		*105*	*70-120*			
Matrix Spike Dup (BC20637-MSD1)	**Source: 2203104-23**			Prepared: 03/11/202 Analyzed: 03/12/202						
Diesel range organics	554		mg/L	500	0.00	111	75-120	2.38	20	
Surrogate: Chlorobenzene	*106*		*"*	*100*		*106*	*70-120*			

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Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Volatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch BC20510 - 5030B - 8260B

Blank (BC20510-BLK1) Prepared & Analyzed: 03/14/202

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	ND	5.00	ug/L							
Benzene	ND	1.00	"							
Bromobenzene	ND	1.00	"							
Bromochloromethane	ND	1.00	"							
Bromodichloromethane	ND	1.00	"							
Bromoform	ND	5.00	"							
Bromomethane	ND	3.00	"							
2-Butanone (MEK)	ND	5.00	"							
n-Butylbenzene	ND	1.00	"							
sec-Butylbenzene	ND	1.00	"							
tert-Butylbenzene	ND	1.00	"							
Carbon disulfide	ND	1.00	"							
Carbon tetrachloride	ND	1.00	"							
Chlorobenzene	ND	1.00	"							
Chloroethane	ND	3.00	"							
2-Chloroethyl vinyl ether	ND	5.00	"							
Chloroform	ND	1.00	"							
Chloromethane	ND	3.00	"							
4-Chlorotoluene	ND	1.00	"							
2-Chlorotoluene	ND	1.00	"							
1,2-Dibromo-3-chloropropane	ND	5.00	"							
Dibromochloromethane	ND	1.00	"							
1,2-Dibromoethane	ND	1.00	"							
Dibromomethane	ND	1.00	"							
1,2-Dichlorobenzene	ND	1.00	"							
1,3-Dichlorobenzene	ND	1.00	"							
1,4-Dichlorobenzene	ND	1.00	"							
Dichlorodifluoromethane	ND	3.00	"							
1,1-Dichloroethane	ND	1.00	"							
1,2-Dichloroethane	ND	1.00	"							
1,1-Dichloroethene	ND	1.00	"							
cis-1,2-Dichloroethene	ND	1.00	"							
trans-1,2-Dichloroethene	ND	1.00	"							
1,2-Dichloropropane	ND	1.00	"							
1,3-Dichloropropane	ND	1.00	"							
2,2-Dichloropropane	ND	1.00	"							
1,1-Dichloropropene	ND	1.00	"							
cis-1,3-Dichloropropene	ND	1.00	"							
trans-1,3-Dichloropropene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Hexachlorobutadiene	ND	3.00	"							

Amolk Brar, Lab Director

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Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Volatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20510 - 5030B - 8260B										
Blank (BC20510-BLK1)				Prepared & Analyzed: 03/14/202						
2-Hexanone	ND	5.00	ug/L							
Isopropylbenzene	ND	1.00	"							
p-Isopropyltoluene	ND	1.00	"							
Methyl tert-Butyl Ether (MTBE)	ND	2.00	"							
4-Methyl-2-pentanone (MIBK)	ND	5.00	"							
Methylene chloride	ND	5.00	"							
Naphthalene	ND	1.00	"							
n-Propylbenzene	ND	1.00	"							
Styrene	ND	2.00	"							
1,1,1,2-Tetrachloroethane	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	1.00	"							
Tetrachloroethene	ND	1.00	"							
Toluene	ND	1.00	"							
1,2,3-Trichlorobenzene	ND	1.00	"							
1,2,4-Trichlorobenzene	ND	1.00	"							
1,1,1-Trichloroethane	ND	1.00	"							
1,1,2-Trichloroethane	ND	1.00	"							
Trichloroethene	ND	1.00	"							
Trichlorofluoromethane	ND	1.00	"							
1,2,3-Trichloropropane	ND	1.00	"							
1,2,4- Trimethylbenzene	ND	1.00	"							
1,3,5- Trimethylbenzene	ND	1.00	"							
Vinyl acetate	ND	5.00	"							
Vinyl chloride	ND	3.00	"							
o-Xylene	ND	1.00	"							
m,p-Xylenes	ND	2.00	"							
LCS (BC20510-BS1)				Prepared: 03/14/202 Analyzed: 03/15/202						
Benzene	48.9		ug/L	50.0		97.8	75-120			
Chlorobenzene	51.5		"	50.0		103	75-120			
1,1-Dichloroethene	44.5		"	50.0		89.0	75-120			
Methyl tert-Butyl Ether (MTBE)	49.1		"	50.0		98.2	75-120			
Toluene	47.1		"	50.0		94.1	75-120			
Trichloroethene	46.3		"	50.0		92.7	75-120			

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Volatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20510 - 5030B - 8260B										
LCS Dup (BC20510-BSD1)				Prepared: 03/14/202 Analyzed: 03/15/202						
Benzene	51.4		ug/L	50.0		103	75-120	5.04	15	
Chlorobenzene	54.7		"	50.0		109	75-120	6.02	15	
1,1-Dichloroethene	43.5		"	50.0		87.0	75-120	2.18	15	
Methyl tert-Butyl Ether (MTBE)	47.2		"	50.0		94.4	75-120	3.93	15	
Toluene	49.2		"	50.0		98.3	75-120	4.39	15	
Trichloroethene	49.6		"	50.0		99.3	75-120	6.92	15	
Matrix Spike (BC20510-MS1)	**Source: 2203104-30**			Prepared: 03/14/202 Analyzed: 03/15/202						
Benzene	50.7		ug/L	50.0	0.00	101	75-120			
Chlorobenzene	53.4		"	50.0	0.00	107	75-120			
1,1-Dichloroethene	45.6		"	50.0	0.00	91.2	75-120			
Methyl tert-Butyl Ether (MTBE)	48.1		"	50.0	0.00	96.2	75-120			
Toluene	48.6		"	50.0	0.00	97.1	75-120			
Trichloroethene	48.0		"	50.0	0.00	96.0	75-120			
Matrix Spike Dup (BC20510-MSD1)	**Source: 2203104-30**			Prepared: 03/14/202 Analyzed: 03/15/202						
Benzene	56.7		ug/L	50.0	0.00	113	75-120	11.1	15	
Chlorobenzene	60.0		"	50.0	0.00	120	75-120	11.6	15	
1,1-Dichloroethene	48.5		"	50.0	0.00	97.0	75-120	6.20	15	
Methyl tert-Butyl Ether (MTBE)	52.4		"	50.0	0.00	105	75-120	8.48	15	
Toluene	54.8		"	50.0	0.00	110	75-120	12.0	15	
Trichloroethene	50.7		"	50.0	0.00	101	75-120	5.49	15	
Batch BC20634 - 5035 - 8260B										
Blank (BC20634-BLK1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Acetone	ND	50.0	ug/kg							
Benzene	ND	2.00	"							
Bromobenzene	ND	10.0	"							
Bromochloromethane	ND	10.0	"							
Bromodichloromethane	ND	10.0	"							
Bromoform	ND	50.0	"							
Bromomethane	ND	30.0	"							
2-Butanone	ND	50.0	"							
n-Butylbenzene	ND	10.0	"							
sec-Butylbenzene	ND	10.0	"							
tert-Butylbenzene	ND	10.0	"							
Carbon disulfide	ND	10.0	"							
Carbon tetrachloride	ND	10.0	"							
Chlorobenzene	ND	10.0	"							
Chloroethane	ND	30.0	"							
2-Chloroethylvinyl Ether	ND	50.0	"							

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Volatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20634 - 5035 - 8260B										
Blank (BC20634-BLK1)				Prepared: 03/11/202 Analyzed: 03/12/202						
Chloroform	ND	10.0	ug/kg							
Chloromethane	ND	30.0	"							
4-Chlorotoluene	ND	10.0	"							
2-Chlorotoluene	ND	10.0	"							
1,2-Dibromo-3-chloropropane	ND	50.0	"							
Dibromochloromethane	ND	10.0	"							
1,2-Dibromoethane	ND	10.0	"							
Dibromomethane	ND	10.0	"							
1,2-Dichlorobenzene	ND	10.0	"							
1,3-Dichlorobenzene	ND	10.0	"							
1,4-Dichlorobenzene	ND	10.0	"							
Dichlorodifluoromethane	ND	30.0	"							
1,1-Dichloroethane	ND	10.0	"							
1,2-Dichloroethane	ND	10.0	"							
1,1-Dichloroethene	ND	10.0	"							
cis-1,2-Dichloroethene	ND	10.0	"							
trans-1,2-Dichloroethene	ND	10.0	"							
1,1-Dichloropropene	ND	10.0	"							
1,2-Dichloropropane	ND	10.0	"							
1,3-Dichloropropane	ND	10.0	"							
2,2-Dichloropropane	ND	10.0	"							
cis-1,3-Dichloropropene	ND	10.0	"							
trans-1,3-Dichloropropene	ND	10.0	"							
Ethylbenzene	ND	2.00	"							
Hexachlorobutadiene	ND	30.0	"							
2-Hexanone	ND	50.0	"							
Isopropylbenzene	ND	10.0	"							
p-Isopropyltoluene	ND	10.0	"							
Methyl tert-Butyl Ether (MTBE)	ND	5.00	"							
4-Methyl-2-pentanone (MIBK)	ND	50.0	"							
Methylene chloride	ND	50.0	"							
Naphthalene	ND	10.0	"							
n-Propylbenzene	ND	10.0	"							
Styrene	ND	10.0	"							
1,1,1,2-Tetrachloroethane	ND	10.0	"							
1,1,2,2-Tetrachloroethane	ND	10.0	"							
Tetrachloroethene	ND	10.0	"							
Toluene	ND	2.00	"							
1,2,3-Trichlorobenzene	ND	10.0	"							
1,2,4-Trichlorobenzene	ND	10.0	"							
1,1,1-Trichloroethane	ND	10.0	"							

Amolk Brar, Lab Director

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Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Volatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20634 - 5035 - 8260B										
Blank (BC20634-BLK1)				Prepared: 03/11/202 Analyzed: 03/12/202						
1,1,2-Trichloroethane	ND	10.0	ug/kg							
Trichloroethene	ND	10.0	"							
Trichlorofluoromethane	ND	10.0	"							
1,2,3-Trichloropropane	ND	10.0	"							
1,2,4-Trimethylbenzene	ND	10.0	"							
1,3,5- Trimethylbenzene	ND	10.0	"							
Vinyl acetate	ND	50.0	"							
Vinyl chloride	ND	30.0	"							
m,p-Xylenes	ND	4.00	"							
o-Xylene	ND	2.00	"							
LCS (BC20634-BS1)				Prepared & Analyzed: 03/11/202						
Benzene	54.2		ug/L	50.0		108	75-120			
Chlorobenzene	58.1		"	50.0		116	75-120			
1,1-Dichloroethene	57.7		"	50.0		115	75-120			
Methyl tert-Butyl Ether (MTBE)	49.1		"	50.0		98.2	75-120			
Toluene	50.6		"	50.0		101	75-120			
Trichloroethene	52.9		"	50.0		106	75-120			
LCS Dup (BC20634-BSD1)				Prepared & Analyzed: 03/11/202						
Benzene	53.9		ug/L	50.0		108	75-120	0.685	20	
Chlorobenzene	56.0		"	50.0		112	75-120	3.82	20	
1,1-Dichloroethene	58.0		"	50.0		116	75-120	0.467	15	
Methyl tert-Butyl Ether (MTBE)	48.2		"	50.0		96.5	75-120	1.75	15	
Toluene	50.3		"	50.0		101	75-120	0.496	15	
Trichloroethene	52.4		"	50.0		105	75-120	1.04	20	
Matrix Spike (BC20634-MS1)		**Source: 2203104-28**		Prepared & Analyzed: 03/11/202						
Benzene	55.8		ug/L	50.0	0.120	111	75-120			
Chlorobenzene	57.5		"	50.0	0.00	115	75-120			
1,1-Dichloroethene	52.7		"	50.0	0.00	105	75-120			
Methyl tert-Butyl Ether (MTBE)	47.1		"	50.0	0.00	94.1	75-120			
Toluene	51.3		"	50.0	0.00	103	75-120			
Trichloroethene	53.4		"	50.0	0.00	107	75-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amolk Brar

Amolk Brar, Lab Director

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Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Volatile Organic Compounds - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20634 - 5035 - 8260B										
Matrix Spike Dup (BC20634-MSD1)	**Source: 2203104-28**		Prepared & Analyzed: 03/11/202							
Benzene	57.2		ug/L	50.0	0.120	114	75-120	2.55	15	
Chlorobenzene	59.3		"	50.0	0.00	119	75-120	3.12	15	
1,1-Dichloroethene	57.2		"	50.0	0.00	114	75-120	8.30	15	
Methyl tert-Butyl Ether (MTBE)	49.4		"	50.0	0.00	98.9	75-120	4.95	15	
Toluene	52.3		"	50.0	0.00	105	75-120	2.03	15	
Trichloroethene	54.0		"	50.0	0.00	108	75-120	1.12	15	

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

8270 PAH SIM - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20564 - 3550 SV - 8270C										
Blank (BC20564-BLK1)				Prepared & Analyzed: 03/14/202						
Acenaphthene	ND	5.00	ug/kg							
Acenaphthylene	ND	5.00	"							
Anthracene	ND	5.00	"							
Benzo(a)anthracene	ND	5.00	"							
Benzo[a]pyrene	ND	5.00	"							
Benzo[b]fluoranthene	ND	5.00	"							
Benzo(ghi)perylene	ND	5.00	"							
Benzo[k]fluoranthene	ND	5.00	"							
Chrysene	ND	5.00	"							
Dibenz(a,h)anthracene	ND	5.00	"							
Fluoranthene	ND	5.00	"							
Fluorene	ND	5.00	"							
Indeno (1,2,3-cd) pyrene	ND	5.00	"							
Naphthalene	ND	5.00	"							
Phenanthrene	ND	5.00	"							
Pyrene	ND	5.00	"							
Blank (BC20564-BLK2)				Prepared & Analyzed: 03/14/202						
Acenaphthene	ND	5.00	ug/kg							
Acenaphthylene	ND	5.00	"							
Anthracene	ND	5.00	"							
Benzo(a)anthracene	ND	5.00	"							
Benzo[a]pyrene	ND	5.00	"							
Benzo[b]fluoranthene	ND	5.00	"							
Benzo(ghi)perylene	ND	5.00	"							
Benzo[k]fluoranthene	ND	5.00	"							
Chrysene	ND	5.00	"							
Dibenz(a,h)anthracene	ND	5.00	"							
Fluoranthene	ND	5.00	"							
Fluorene	ND	5.00	"							
Indeno (1,2,3-cd) pyrene	ND	5.00	"							
Naphthalene	ND	5.00	"							
Phenanthrene	ND	5.00	"							
Pyrene	ND	5.00	"							

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Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

8270 PAH SIM - Quality Control Report

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BC20564 - 3550 SV - 8270C										
LCS (BC20564-BS1)				Prepared & Analyzed: 03/14/202						
Acenaphthene	30.0	5.00	ug/kg				43-118			
Pyrene	28.5	5.00	"				26-127			
LCS (BC20564-BS2)				Prepared & Analyzed: 03/14/202						
Acenaphthene	31.0	5.00	ug/kg				43-118			
Pyrene	32.2	5.00	"				26-127			
LCS Dup (BC20564-BSD1)				Prepared & Analyzed: 03/14/202						
Acenaphthene	28.7	5.00	ug/kg				43-118	4.55	30	
Pyrene	29.3	5.00	"				26-127	2.88	30	
LCS Dup (BC20564-BSD2)				Prepared & Analyzed: 03/14/202						
Acenaphthene	28.0	5.00	ug/kg				43-118	10.2	30	
Pyrene	26.7	5.00	"				26-127	18.7	30	

Amolk Brar, Lab Director

Citadel Environmental Services, Inc.	Project: Soil Sampling Casitas Ave.	Work Order No: 2203104
1725 Victory Boulevard	Project Number: 1954.1001.0	**Reported:**
Glendale CA, 91201	Project Manager: Nalinna Rasu	03/18/2022 17:56

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the practical quantitation limit (PQL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

APPENDIX C – LEIGHTON AND WESTON DATA TABLES

Project: 10190.005	Eng/Geol: BM
Scale:1 " = 400 '	Date: April 2015

Base Map: ESRI ArcGIS Online 2015
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE PLAN

Former Taylor Yard Parcel G-1 (Bow Tie Parcel)
2800 Kerr Street
Los Angeles, California

Figure 2

Leighton

Map Saved as P:\Drafting\10190\005\Maps\10190-005_F02_BLM_20150416.mxd on 4/17/2015 11:43:41 AM

TABLE 1

Soil and Groundwater Analytical Results for Diesel Range Organics and Volatile Organic Compounds

Taylor Yard Parcel G-1

2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	DRO (mg/kg or mg/L)	Volatile Organic Compounds by EPA Method 5035/8260B (ug/kg or ug/L)							
						Ethylbenzene	Isopropylbenzene	MTBE	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	tert-Butylbenzene
B-1	**B-1-0.5**	0.5	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-1-5.0	5.0	O	1/19/2015	**14**	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-101-5.0	5.0	FD	1/19/2015	**13**	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-1-10	10	O	1/19/2015	**290**	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-1-15	15	O	1/19/2015	**370**	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-1-20	20	O	1/19/2015	< 10	<5.6	< 5.6	<5.6	< 5.6	< 5.6	< 5.6	< 5.6	<5.6
	B-1-25	25	O	1/19/2015	< 10	<4.1	< 4.1	<4.1	< 4.1	< 4.1	< 4.1	< 4.1	<4.1
	B-1-30	30	O	1/19/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
B-2	**B-2-0.5**	0.5	O	1/19/2015	**38**	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-2-5.0	5.0	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-2-10	10	O	1/19/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-2-15	15	O	1/19/2015	**1,300**	<5.7	< 5.7	<5.7	< 5.7	< 5.7	< 5.7	< 5.7	<5.7
	B-102-15	15	FD	1/19/2015	**31**	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-2-20	20	O	1/19/2015	**39**	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-2-25	25	O	1/19/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-2-30	30	O	1/19/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
B-3	**B-3-0.5**	0.5	O	1/13/2015	< 10	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-3-5.0	5.0	O	1/13/2015	< 10	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-3-10	10	O	1/13/2015	< 10	<4.4	< 4.4	<4.4	< 4.4	< 4.4	< 4.4	< 4.4	<4.4
	B-3-15	15	O	1/13/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-3-20	20	O	1/13/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-3-25	25	O	1/13/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-3-30	30	O	1/13/2015	< 10	<35	<35	<35	<35	<35	<35	<35	<35
B-4	**B-4-0.5**	0.5	O	1/15/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-104-0.5	0.5	FD	1/15/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-4-5.0	5.0	O	1/15/2015	< 10	<5.4	< 5.4	<5.4	< 5.4	< 5.4	< 5.4	< 5.4	<5.4
	B-4-10	10	O	1/15/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-4-15	15	O	1/15/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-4-20	20	O	1/15/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-4-25	25	O	1/15/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-4-30	30	O	1/15/2015	< 10	<5.5	< 5.5	<5.5	< 5.5	< 5.5	< 5.5	< 5.5	<5.5
B-5	**B-5-0.5**	0.5	O	1/15/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-5-5.0	5.0	O	1/15/2015	< 10	<4.1	< 4.1	<4.1	< 4.1	< 4.1	< 4.1	< 4.1	<4.1
	B-5-10	10	O	1/15/2015	< 10	<4.4	< 4.4	<4.4	< 4.4	< 4.4	< 4.4	< 4.4	<4.4
	B-5-15	15	O	1/15/2015	< 10	<7.3	< 7.3	<7.3	< 7.3	< 7.3	< 7.3	< 7.3	<7.3
	B-5-20	20	O	1/15/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-105-20	20	FD	1/15/2015	< 10	<5.4	< 5.4	<5.4	< 5.4	< 5.4	< 5.4	< 5.4	<5.4
	B-5-25	25	O	1/15/2015	< 10	<5.5	< 5.5	<5.5	< 5.5	< 5.5	< 5.5	< 5.5	<5.5
	B-5-30	30	O	1/15/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1

TABLE 1
Soil and Groundwater Analytical Results for Diesel Range Organics and Volatile Organic Compounds
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	DRO (mg/kg or mg/L)	Volatile Organic Compounds by EPA Method 5035/8260B (ug/kg or ug/L)							
						Ethylbenzene	Isopropylbenzene	MTBE	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	tert-Butylbenzene
B-6	B-6-0.5	0.5	O	1/16/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-6-5.0	5.0	O	1/16/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-6-10	10	O	1/16/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-6-15	15	O	1/16/2015	< 10	<5.9	< 5.9	<5.9	< 5.9	< 5.9	< 5.9	< 5.9	<5.9
	B-6-20	20	O	1/16/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-6-25	25	O	1/16/2015	< 10	<6.1	< 6.1	<6.1	< 6.1	< 6.1	< 6.1	< 6.1	<6.1
	B-106-25	25	FD	1/16/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-6-30	30	O	1/16/2015	< 10	<5.7	< 5.7	<5.7	< 5.7	< 5.7	< 5.7	< 5.7	<5.7
B-7	B-7-0.5	0.5	O	1/19/2015	**180**	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-7-5.0	5.0	O	1/19/2015	< 10	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-7-10	10	O	1/19/2015	< 10	<5.4	< 5.4	<5.4	< 5.4	< 5.4	< 5.4	< 5.4	<5.4
	B-7-15	15	O	1/19/2015	< 10	<5.5	< 5.5	<5.5	< 5.5	< 5.5	< 5.5	< 5.5	<5.5
	B-7-20	20	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-7-25	25	O	1/19/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-7-30	30	O	1/19/2015	< 10	<5.8	< 5.8	<5.8	< 5.8	< 5.8	< 5.8	< 5.8	<5.8
B-8	B-8-1.5	1.5	O	1/14/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-8-5.0	5.0	O	1/14/2015	< 10	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-8-10	10	O	1/14/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-8-15	15	O	1/14/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-8-20	20	O	1/14/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-8-25	25	O	1/14/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-108-25	25	FD	1/14/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-8-30	30	O	1/14/2015	< 10	<5.4	< 5.4	<5.4	< 5.4	< 5.4	< 5.4	< 5.4	<5.4
B-9	B-9-0.5	0.5	O	1/16/2015	**40**	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-9-5.0	5.0	O	1/16/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-109-5.0	5.0	FD	1/16/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-9-10	10	O	1/16/2015	< 10	<6.2	< 6.2	<6.2	< 6.2	< 6.2	< 6.2	< 6.2	<6.2
	B-9-15	15	O	1/16/2015	< 10	<5.9	< 5.9	<5.9	< 5.9	< 5.9	< 5.9	< 5.9	<5.9
	B-9-20	20	O	1/16/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-9-25	25	O	1/16/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-9-30	30	O	1/16/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
B-10	B-10-0.5	0.5	O	1/15/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-10-5.0	5.0	O	1/15/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-10-10	10	O	1/15/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-10-15	15	O	1/15/2015	< 10	<5.6	< 5.6	<5.6	< 5.6	< 5.6	< 5.6	< 5.6	<5.6
	B-10-20	20	O	1/15/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-10-25	25	O	1/15/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-10-30	30	O	1/15/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
B-11	B-11-0.5	0.5	O	1/16/2015	**230**	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-11-5.0	5.0	O	1/16/2015	< 10	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-11-10	10	O	1/16/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-111-10	10	FD	1/16/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-11-15	15	O	1/16/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-11-20	20	O	1/16/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-11-25	25	O	1/16/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-11-30	30	O	1/16/2015	< 10	<5.6	< 5.6	<5.6	< 5.6	< 5.6	< 5.6	< 5.6	<5.6

TABLE 1
Soil and Groundwater Analytical Results for Diesel Range Organics and Volatile Organic Compounds
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	DRO (mg/kg or mg/L)	Volatile Organic Compounds by EPA Method 5035/8260B (ug/kg or ug/L)							
						Ethylbenzene	Isopropylbenzene	MTBE	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	tert-Butylbenzene
B-12	B-12-0.5	0.5	O	1/19/2015	**88**	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-12-5.0	5.0	O	1/19/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-12-10	10	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-12-15	15	O	1/19/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-12-20	20	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-12-25	25	O	1/19/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-12-30	30	O	1/19/2015	**3,500**	<230	**1,200**	<230	**18,000**	**7,100**	**34,000**	**6,200**	<230
B-13	B-13-0.5	0.5	O	1/19/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-13-5.0	5.0	O	1/19/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-13-10	10	O	1/19/2015	< 10	<5.8	< 5.8	<5.8	< 5.8	< 5.8	< 5.8	< 5.8	<5.8
	B-113-10	10	FD	1/19/2015	< 10	<5.6	< 5.6	<5.6	< 5.6	< 5.6	< 5.6	< 5.6	<5.6
	B-13-15	15	O	1/19/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-13-20	20	O	1/19/2015	< 10	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-13-25	25	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-13-30	30	O	1/19/2015	< 10	<5.4	< 5.4	<5.4	< 5.4	< 5.4	< 5.4	< 5.4	<5.4
B-14	B-14-0.5	0.5	O	1/16/2015	**45**	<5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	B-114-0.5	0.5	FD	1/16/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-14-5.0	5.0	O	1/16/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-14-10	10	O	1/16/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-14-15	15	O	1/16/2015	< 10	<7.0	< 7.0	<7.0	< 7.0	< 7.0	< 7.0	< 7.0	<7.0
	B-14-20	20	O	1/16/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-14-25	25	O	1/16/2015	< 10	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-14-30	30	O	1/16/2015	< 10	<5.9	< 5.9	<5.9	< 5.9	< 5.9	< 5.9	< 5.9	<5.9
B-15	B-15-0.5	0.5	O	1/19/2015	< 10	<5.4	< 5.4	<5.4	< 5.4	< 5.4	< 5.4	< 5.4	<5.4
	B-115-0.5	0.5	FD	1/19/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-15-5.0	5.0	O	1/19/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-15-10	10	O	1/19/2015	< 10	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-15-15	15	O	1/19/2015	< 10	<4.9	< 4.9	<4.9	< 4.9	< 4.9	< 4.9	< 4.9	<4.9
	B-15-20	20	O	1/19/2015	< 10	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-15-25	25	O	1/19/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-15-30	30	O	1/19/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
B-16	B-16-1.5	1.5	O	1/13/2015	**140**	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-16-5.0	5.0	O	1/13/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-16-10	10	O	1/13/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-116-10	10	FD	1/13/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-16-15	15	O	1/13/2015	< 10	<4.4	< 4.4	<4.4	< 4.4	< 4.4	< 4.4	< 4.4	<4.4
	B-16-20	20	O	1/13/2015	< 10	<5.5	< 5.5	<5.5	< 5.5	< 5.5	< 5.5	< 5.5	<5.5
	B-16-25	25	O	1/13/2015	< 10	<5.9	< 5.9	<5.9	< 5.9	< 5.9	< 5.9	< 5.9	<5.9
	B-16-30	30	O	1/13/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3

TABLE 1
Soil and Groundwater Analytical Results for Diesel Range Organics and Volatile Organic Compounds
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	DRO (mg/kg or mg/L)	Volatile Organic Compounds by EPA Method 5035/8260B (ug/kg or ug/L)							
						Ethylbenzene	Isopropylbenzene	MTBE	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	tert-Butylbenzene
B-19	B-19-0.5	0.5	O	1/14/2015	**35**	<4.3	< 4.3	<4.3	< 4.3	< 4.3	< 4.3	< 4.3	<4.3
	B-19-5.0	5.0	O	1/14/2015	< 10	<4.6	< 4.6	<4.6	< 4.6	< 4.6	< 4.6	< 4.6	<4.6
	B-19-10	10	O	1/14/2015	< 10	<5.2	< 5.2	<5.2	< 5.2	< 5.2	< 5.2	< 5.2	<5.2
	B-19-15	15	O	1/14/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-119-15	15	FD	1/14/2015	< 10	<4.8	< 4.8	<4.8	< 4.8	< 4.8	< 4.8	< 4.8	<4.8
	B-19-20	20	O	1/14/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-19-25	25	O	1/14/2015	< 10	<5.3	< 5.3	<5.3	< 5.3	< 5.3	< 5.3	< 5.3	<5.3
	B-19-30	30	O	1/14/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
B-20	B-20-0.5	0.5	O	1/15/2015	**53**	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-20-5.0	5.0	O	1/15/2015	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-20-10	10	O	1/15/2015	< 10	<4.5	< 4.5	<4.5	< 4.5	< 4.5	< 4.5	< 4.5	<4.5
	B-20-15	15	O	1/15/2015	< 10	<4.7	< 4.7	<4.7	< 4.7	< 4.7	< 4.7	< 4.7	<4.7
	B-20-20	20	O	1/15/2015	< 10	<3.9	< 3.9	<3.9	< 3.9	< 3.9	< 3.9	< 3.9	<3.9
	B-20-25	25	O	1/15/2015	< 10	<5.1	< 5.1	<5.1	< 5.1	< 5.1	< 5.1	< 5.1	<5.1
	B-20-30	30	O	1/15/2015	< 10	<5.9	< 5.9	<5.9	< 5.9	< 5.9	< 5.9	< 5.9	<5.9
B-21	B-21-0.5	0.5	O	3/11/2015	**200**	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5
	B-21-5.0	5.0	O	3/11/2015	<10	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
	B-21-10	10	O	3/11/2015	<10	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
	B-21-15	15	O	3/11/2015	<10	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
	B-21-20	20	O	3/11/2015	<10	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3
	B-121-20	20	FD	3/11/2015	<10	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4
	B-21-25	25	O	3/11/2015	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-21-30	30	O	3/11/2015	**140**	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
B-22	B-22-0.5	0.5	O	3/11/2015	**95**	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
	B-122-0.5	0.5	FD	3/11/2015	**60**	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3
	B-22-5.0	5.0	O	3/11/2015	<10	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
	B-22-10	10	O	3/11/2015	<10	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5
	B-22-15	15	O	3/11/2015	<10	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2
	B-22-20	20	O	3/11/2015	<10	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
	B-22-25	25	O	3/11/2015	<10	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
	B-22-30	30	O	3/11/2015	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-23	B-23-0.5	0.5	O	3/10/2015	--	--	--	--	--	--	--	--	--
	B-23-5.0	5.0	O	3/10/2015	**210**	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
	B-23-10	10	O	3/10/2015	<10	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
	B-23-15	15	O	3/10/2015	<10	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
	B-23-20	20	O	3/10/2015	<10	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6
	B-23-25	25	O	3/10/2015	<10	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
	B-23-30	30	O	3/10/2015	**1,900**	<5.3	**17**	<5.3	**110**	**67**	**47**	**67**	<5.3
	B-23-35	35	O	3/10/2015	**280**	<4.7	<4.7	<4.7	**29**	**6.1**	<4.7	**18**	<4.7
	B-123-35	35	FD	3/10/2015	**2,400**	<5.3	<5.3	<5.3	**6.7**	<5.3	<5.3	<5.3	<5.3
B-24	B-24-0.5	0.5	O	3/10/2015	--	--	--	--	--	--	--	--	--
	B-24-5.0	5.0	O	3/10/2015	--	--	--	--	--	--	--	--	--
	B-24-10	10	O	3/10/2015	--	--	--	--	--	--	--	--	--
	B-24-15	15	O	3/10/2015	--	--	--	--	--	--	--	--	--
	B-24-20	20	O	3/10/2015	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-24-25	25	O	3/10/2015	<10	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8
	B-24-30	30	O	3/10/2015	**2,400**	<260	<260	<260	**1,500**	**600**	**3,000**	**510**	<260
	B-24-35	35	O	3/10/2015	**3,600**	<230	**400**	<230	**2,900**	**2,100**	**7,300**	**1,200**	<230

TABLE 1
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Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	DRO (mg/kg or mg/L)	Volatile Organic Compounds by EPA Method 5035/8260B (ug/kg or ug/L)								
						Ethylbenzene	Isopropylbenzene	MTBE	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	tert-Butylbenzene
Groundwater Samples														
B-23	B-23-GW	33	O	3/10/2015	190	<0.50	7.7	1.0	59	16	<0.50	31	0.61
	B-123-GW	33	FD	3/10/2015	110	<0.50	9.0	1.1	76	32	<0.50	39	0.78
B-24	B-24-GW	33	O	3/10/2015	17	7.0	8.2	<0.50	19	33	100	10	<0.50
Equipment Blanks														
Equipment Blank	EB-1	--	O	1/13/2015	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	EB-2	--	O	1/14/2015	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	EB-3	--	O	1/15/2015	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	EB-4	--	O	1/16/2015	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	EB-5	--	O	1/19/2015	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	EB-6	--	O	3/10/2015	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	EB-7	--	O	3/11/2015	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Screening Criteria														
				Residential RSL	--	5,800	1,900,000	47,000	3,900,000	3,300,000	3,800	7,800,000	7,800,000
				Maximum SSL	100/1,000	700/7,000	--	--	--	--	--	--	--
				MCL	--	300	--	13	--	--	--	--	--

Notes:

DRO = Diesel range organics
RSL = USEPA Region 9 Regional Screening Level for Soil in a Residential Setting (January 2015)
SSL = Maximum Soil Screening Level for TPH Above Drinking Water Aquifer (<20 feet/20-150 feet), Los Angeles Regional Water Quality Control Board Guidebook (May 1996)
MCL= Maximum Contaminant Level (June, 2014)
µg/kg = Micrograms per kilogram
O = Original sample
FD = Field duplicate of the above listed original sample
= Shaded area indicates the concentration exceeds regulatory screening levels

TABLE 2
Soil Analytical Results for Polycyclic Aromatic Hydrocarbons
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	Unit	Polynuclear Aromatic Hydrocarbons by EPA Method 8270 SIM															
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
B-1	B-1-0.5	0.5	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**5.2**	**15**	< 5.0	**5.5**	< 5.0	**5.1**	< 5.0	**5.3**	< 5.0	< 5.0	**5.4**
	B-1-5.0	5.0	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	**9.3**	**9.7**	**14**	**11**	< 5.0	**11**	**7.8**	**13**	< 5.0	**7.0**	< 5.0	**6.5**	**16**
	B-101-5.0	5.0	FD	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	**9.0**	**9.0**	**13**	**11**	< 5.0	**10**	**7.7**	**12**	< 5.0	**6.8**	< 5.0	**6.9**	**14**
	B-1-10	10	O	1/19/2015	µg/kg	< 250	<250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250
	B-1-15	15	O	1/19/2015	µg/kg	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250
	B-1-20	20	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-1-25	25	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-1-30	30	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-2	B-2-0.5	0.5	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	**18**	**35**	**31**	**28**	**13**	**19**	**11**	**15**	< 5.0	**23**	< 5.0	**5.3**	**19**
	B-2-5.0	5.0	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	**5.4**	**5.9**	**6.4**	< 5.0	**5.0**	< 5.0	**6.4**	< 5.0	< 5.0	< 5.0	< 5.0	**9.1**
	B-2-10	10	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**6.2**	**5.3**	< 5.0	< 5.0	< 5.0	**5.9**	< 5.0	< 5.0	< 5.0	< 5.0	**7.8**
	B-2-15	15	O	1/19/2015	µg/kg	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750	< 750
	B-102-15	15	FD	1/19/2015	µg/kg	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250
	B-2-20	20	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-2-25	25	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-2-30	30	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-3	B-3-0.5	0.5	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-3-5.0	5.0	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-3-10	10	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-3-15	15	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-3-20	20	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-3-25	25	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-3-30	30	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-4	B-4-0.5	0.5	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-104-0.5	0.5	FD	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	**6.6**	**6.1**	**12**	**7.9**	< 5.0	**14**	< 5.0	**16**	< 5.0	**5.5**	< 5.0	**5.0**	**13**
	B-4-5.0	5.0	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-4-10	10	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-4-15	15	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-4-20	20	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-4-25	25	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-4-30	30	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-5	B-5-0.5	0.5	O	1/15/2015	µg/kg	< 5.0	**7.9**	**14**	**8.4**	**10**	**19**	**52**	**5.5**	**18**	**15**	**13**	< 5.0	**19**	< 5.0	< 5.0	**14**
	B-5-5.0	5.0	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-5-10	10	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-5-15	15	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-5-20	20	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-105-20	20	FD	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-5-25	25	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-5-30	30	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-6	B-6-0.5	0.5	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-6-5.0	5.0	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-6-10	10	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-6-15	15	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-6-20	20	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-6-25	25	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-106-25	25	FD	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-6-30	30	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-7	B-7-0.5	0.5	O	1/19/2015	µg/kg	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250
	B-7-5.0	5.0	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-7-10	10	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-7-15	15	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-7-20	20	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-7-25	25	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-7-30	30	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-8	B-8-1.5	1.5	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-8-5.0	5.0	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-8-10	10	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-8-15	15	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-8-20	20	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-8-25	25	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-108-25	25	FD	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-8-30	30	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

TABLE 2
Soil Analytical Results for Polycyclic Aromatic Hydrocarbons
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	Unit	Polynuclear Aromatic Hydrocarbons by EPA Method 8270 SIM															
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
B-9	B-9-0.5	0.5	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-9-5.0	5.0	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	**15**	**26**	**27**	**29**	**9.3**	**18**	< 5.0	**23**	< 5.0	**22**	< 5.0	**11**	**24**
	B-109-5.0	5.0	FD	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	**25**	**33**	**42**	**30**	**13**	**30**	**6.2**	**39**	< 5.0	**22**	< 5.0	**17**	**42**
	B-9-10	10	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-9-15	15	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-9-20	20	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-9-25	25	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-9-30	30	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-10	B-10-0.5	0.5	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-10-5.0	5.0	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-10-10	10	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-10-15	15	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-10-20	20	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-10-25	25	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-10-30	30	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-11	B-11-0.5	0.5	O	1/16/2015	µg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
	B-11-5.0	5.0	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-11-10	10	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-111-10	10	FD	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-11-15	15	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-11-20	20	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-11-25	25	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-11-30	30	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-12	B-12-0.5	0.5	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.8	< 5.0	< 5.0
	B-12-5.0	5.0	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-12-10	10	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-12-15	15	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-12-20	20	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-12-25	25	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-12-30	30	O	1/19/2015	µg/kg	**300**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**710**	< 5.0	**340**	< 5.0	**91**
B-13	B-13-0.5	0.5	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-13-5.0	5.0	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-13-10	10	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-113-10	10	FD	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-13-15	15	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-13-20	20	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-13-25	25	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-13-30	30	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-14	B-14-0.5	0.5	O	1/16/2015	µg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
	B-114-0.5	0.5	FD	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	**5.0**	**5.5**	**11**	< 5.0	< 5.0	< 5.0	**6.6**	< 5.0	**5.4**	< 5.0	< 5.0	**9.8**
	B-14-5.0	5.0	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-14-10	10	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	**8.4**	**8.7**	**14**	< 5.0	**6.8**	< 5.0	**8.1**	< 5.0	**8.6**	< 5.0	< 5.0	**9.9**
	B-14-15	15	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-14-20	20	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-14-25	25	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-14-30	30	O	1/16/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-15	B-15-0.5	0.5	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-115-0.5	0.5	FD	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-15-5.0	5.0	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-15-10	10	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-15-15	15	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-15-20	20	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-15-25	25	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-15-30	30	O	1/19/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-16	B-16-1.5	1.5	O	1/13/2015	µg/kg	< 50	**70**	**87**	**330**	**290**	**490**	**220**	**160**	**470**	**69**	**480**	< 50	**210**	< 50	**67**	**550**
	B-16-5.0	5.0	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-16-10	10	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-116-10	10	FD	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-16-15	15	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-16-20	20	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-16-25	25	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-16-30	30	O	1/13/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

TABLE 2
Soil Analytical Results for Polycyclic Aromatic Hydrocarbons
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	Unit	Polynuclear Aromatic Hydrocarbons by EPA Method 8270 SIM															
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
B-19	B-19-0.5	0.5	O	1/14/2015	µg/kg	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
	B-19-5.0	5.0	O	1/14/2015	µg/kg	< 5.0	<5.0	< 5.0	**8.0**	**11**	**15**	**12**	**6.2**	**9.4**	< 5.0	**7.6**	< 5.0	**9.6**	< 5.0	< 5.0	**8.9**
	B-19-10	10	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-19-15	15	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-119-15	15	FD	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-19-20	20	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-19-25	25	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-19-30	30	O	1/14/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-20	B-20-0.5	0.5	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-20-5.0	5.0	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-20-10	10	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-20-15	15	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-20-20	20	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-20-25	25	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	B-20-30	30	O	1/15/2015	µg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
B-21	B-21-0.5	0.5	O	3/11/2015	mg/kg	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	B-21-5.0	5.0	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-21-10	10	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-21-15	15	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-21-20	20	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-121-20	20	FD	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	**5.6**	**5.9**	**5.8**	**6.4**	<5.0	<5.0	<5.0	<5.0	**6.0**	<5.0	<5.0	<5.0
	B-21-25	25	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-21-30	30	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-22	B-22-0.5	0.5	O	3/11/2015	mg/kg	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	B-22-0.5	0.5	FD	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-22-5.0	5.0	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-22-10	10	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-22-15	15	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**8.7**
	B-22-20	20	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-22-25	25	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-22-30	30	O	3/11/2015	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-23	B-23-0.5	0.5	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-5.0	5.0	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-10	10	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-15	15	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-20	20	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-25	25	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-30	30	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-35	35	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-123-35	35	FD	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-24	B-24-0.5	0.5	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-5.0	5.0	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-10	10	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-15	15	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-20	20	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-25	25	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-30	30	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-35	35	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Equipment Blanks																					
Equipment Blank	EB-1	--	O	1/13/2015	µg/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	EB-2	--	O	1/14/2015	µg/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	EB-3	--	O	1/15/2015	µg/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	EB-4	--	O	1/16/2015	µg/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	EB-5	--	O	1/19/2015	µg/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	EB-6	--	O	3/10/2015	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB-7	--	O	3/11/2015	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Screening Criteria																					
				Residential RSL	µg/kg	3,500,000	--	17,000,000	150	15	150	--	1,500	15,000	15	2,300,000	2,300,000	150	3,800	--	1,700,000

Notes:
RSL = USEPA Region 9 Regional Screening Level for Soil in a Residential Setting (January 2015)
µg/kg = Micrograms per kilogram
µg/L = Micrograms per liter
O = Original sample
FD = Field duplicate of the above listed original sample
= Shaded area indicates the concentration exceeds regulatory screening levels

TABLE 3
Soil Analytical Results for Metals
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	Unit	Metals by EPA Method 6010B/7471A																							
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Hexavalent Chromium	Chromium STLC	Chromium TCLP	Cobalt	Copper	Copper STLC (mg/L)	Lead	Lead STLC (mg/L)	Lead TCLP (mg/L)	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Zinc STLC (mg/L)
B-1	B-1-0.5	0.5	O	1/19/2015	mg/kg	< 2.0	6.4	93	< 1.0	< 1.0	10	--	--	--	5.9	17	--	15	--	--	< 0.10	< 1.0	9.3	< 1.0	< 1.0	< 0.78	34	46	--
	B-1-5.0	5.0	O	1/19/2015	mg/kg	2.5	16	78	< 1.0	< 1.0	7.8	--	--	--	4.6	25	--	42	--	--	< 0.10	< 1.0	7.2	< 1.0	< 1.0	< 0.78	30	59	--
	B-101-5.0	5.0	FD	1/19/2015	mg/kg	3.1	18	73	< 1.0	< 1.0	9.1	--	--	--	4.3	32	--	68	1.4	--	< 0.10	< 1.0	7.2	< 1.0	< 1.0	< 0.78	31	61	--
	B-1-10	10	O	1/19/2015	mg/kg	2.3	20	99	< 1.0	< 1.0	10	--	--	--	5.9	43	--	97	2.8	--	0.79	< 1.0	11	< 1.0	< 1.0	< 0.78	32	100	--
	B-1-15	15	O	1/19/2015	mg/kg	< 2.0	< 1.0	18	< 1.0	< 1.0	3.1	--	--	--	5.5	6.7	--	2.1	--	--	< 0.10	< 1.0	3.5	< 1.0	< 1.0	< 0.78	30	27	--
	B-1-20	20	O	1/19/2015	mg/kg	< 2.0	1.1	69	< 1.0	< 1.0	5.6	--	--	--	4.4	7.3	--	1.7	--	--	< 0.10	< 1.0	5.7	< 1.0	< 1.0	< 0.78	20	30	--
	B-1-25	25	O	1/19/2015	mg/kg	< 2.0	2.5	100	< 1.0	< 1.0	15	--	--	--	8.4	32	--	3.5	--	--	< 0.10	5.3	9.1	1.5	< 1.0	< 0.78	37	40	--
	B-1-30	30	O	1/19/2015	mg/kg	< 2.0	1.3	42	< 1.0	< 1.0	5.6	--	--	--	2.9	5.6	--	1.3	--	--	< 0.10	< 1.0	3.6	< 1.0	< 1.0	< 0.78	20	19	--
B-2	B-2-0.5	0.5	O	1/19/2015	mg/kg	< 2.0	17	100	< 1.0	< 1.0	12	--	--	--	6.2	27	--	26	--	--	< 0.10	< 1.0	11	< 1.0	< 1.0	< 0.78	36	59	--
	B-2-5.0	5.0	O	1/19/2015	mg/kg	< 2.0	22	88	< 1.0	< 1.0	10	--	--	--	4.7	21	--	24	--	--	< 0.10	< 1.0	9.1	< 1.0	< 1.0	< 0.78	33	40	--
	B-2-10	10	O	1/19/2015	mg/kg	< 2.0	18	110	< 1.0	< 1.0	9.8	--	--	--	6.1	21	--	31	--	--	< 0.10	< 1.0	9.2	< 1.0	< 1.0	< 0.78	33	51	--
	B-2-15	15	O	1/19/2015	mg/kg	< 2.0	< 1.0	15	< 1.0	< 1.0	2.8	--	--	--	7.7	10	--	1.7	--	--	< 0.10	< 1.0	7.4	1.0	< 1.0	< 0.78	43	29	--
	B-102-15	15	FD	1/19/2015	mg/kg	< 2.0	2.1	84	< 1.0	< 1.0	9.0	--	--	--	6.4	14	--	2.9	--	--	< 0.10	< 1.0	7.2	< 1.0	< 1.0	< 0.78	43	38	--
	B-2-20	20	O	1/19/2015	mg/kg	< 2.0	10	130	< 1.0	< 1.0	10	--	--	--	5.8	34	--	120	6.3	0.057	< 0.10	< 1.0	9.5	1.2	< 1.0	< 0.78	30	190	--
	B-2-25	25	O	1/19/2015	mg/kg	< 2.0	2.0	120	< 1.0	< 1.0	13	--	--	--	6.6	17	--	3.1	--	--	< 0.10	< 1.0	11	< 1.0	< 1.0	< 0.78	35	40	--
	B-2-30	30	O	1/19/2015	mg/kg	< 2.0	1.1	70	< 1.0	< 1.0	9.6	--	--	--	4.8	9.3	--	1.6	--	--	0.11	< 1.0	6.2	< 1.0	< 1.0	< 0.78	36	32	--
B-3	B-3-0.5	0.5	O	1/13/2015	mg/kg	< 2.0	1.5	260	< 1.0	< 1.0	4.2	--	--	--	7.4	11	--	4.4	--	--	< 0.10	< 1.0	4.1	2.4	< 1.0	< 0.78	60	47	--
	B-3-5.0	5.0	O	1/13/2015	mg/kg	< 2.0	1.1	77	< 1.0	< 1.0	9.6	--	--	--	4.6	9.5	--	2.8	--	--	< 0.10	< 1.0	6.5	1.1	< 1.0	< 0.78	27	28	--
	B-3-10	10	O	1/13/2015	mg/kg	< 2.0	1.1	57	< 1.0	< 1.0	6.8	--	--	--	3.7	7.4	--	1.8	--	--	< 0.10	< 1.0	4.9	< 1.0	< 1.0	< 0.78	22	24	--
	B-3-15	15	O	1/13/2015	mg/kg	< 2.0	1.0	50	< 1.0	< 1.0	5.4	--	--	--	3.2	6.2	--	1.0	--	--	< 0.10	< 1.0	3.8	< 1.0	< 1.0	< 0.78	20	18	--
	B-3-20	20	O	1/13/2015	mg/kg	< 2.0	1.4	86	< 1.0	< 1.0	7.8	--	--	--	6.2	16	--	13	--	--	< 0.10	< 1.0	7.4	< 1.0	< 1.0	< 0.78	27	39	--
	B-3-25	25	O	1/13/2015	mg/kg	< 2.0	< 1.0	130	< 1.0	< 1.0	10	--	--	--	7.2	14	--	2.3	--	--	< 0.10	< 1.0	10	1.4	< 1.0	< 0.78	34	46	--
	B-3-30	30	O	1/13/2015	mg/kg	< 2.0	< 1.0	58	< 1.0	< 1.0	4.3	--	--	--	3.4	5.3	--	1.1	--	--	< 0.10	< 1.0	4.1	< 1.0	< 1.0	< 0.78	17	23	--
B-4	B-4-0.5	0.5	O	1/15/2015	mg/kg	< 2.0	1.6	46	< 1.0	< 1.0	6.9	--	--	--	2.8	21	--	43	--	--	< 0.10	< 1.0	5.0	2.5	< 1.0	< 0.78	19	36	--
	B-104-0.5	0.5	FD	1/15/2015	mg/kg	< 2.0	2.0	68	< 1.0	< 1.0	8.2	--	--	--	3.2	29	--	52	< 1.0	--	< 0.10	< 1.0	6.4	1.9	< 1.0	< 0.78	21	120	--
	B-4-5.0	5.0	O	1/15/2015	mg/kg	< 2.0	< 1.0	41	< 1.0	< 1.0	4.9	--	--	--	2.5	7.6	--	3.1	--	--	< 0.10	< 1.0	3.6	1.2	< 1.0	< 0.78	17	27	--
	B-4-10	10	O	1/15/2015	mg/kg	< 2.0	< 1.0	31	< 1.0	< 1.0	4.3	--	--	--	2.3	4.4	--	2.0	--	--	< 0.10	< 1.0	2.9	1.1	< 1.0	< 0.78	15	16	--
	B-4-15	15	O	1/15/2015	mg/kg	< 2.0	1.1	55	< 1.0	< 1.0	7.6	--	--	--	3.8	7.3	--	2.7	--	--	< 0.10	< 1.0	4.7	2.0	< 1.0	< 0.78	31	28	--
	B-4-20	20	O	1/15/2015	mg/kg	< 2.0	1.0	61	< 1.0	< 1.0	7.0	--	--	--	4.2	8.2	--	4.2	--	--	< 0.10	< 1.0	5.4	1.7	< 1.0	< 0.78	24	33	--
	B-4-25	25	O	1/15/2015	mg/kg	< 2.0	2.5	120	< 1.0	< 1.0	13	--	--	--	7.8	23	--	5.0	--	--	< 0.10	< 1.0	11	2.6	< 1.0	< 0.78	33	43	--
	B-4-30	30	O	1/15/2015	mg/kg	< 2.0	< 1.0	45	< 1.0	< 1.0	4.6	--	--	--	2.8	4.6	--	1.2	--	--	< 0.10	< 1.0	3.3	1.1	< 1.0	< 0.78	16	19	--
B-5	B-5-0.5	0.5	O	1/15/2015	mg/kg	< 2.0	2.0	62	< 1.0	< 1.0	8.5	--	--	--	4.4	16	--	36	--	--	< 0.10	< 1.0	7.3	< 1.0	< 1.0	< 0.78	24	16	--
	B-5-5.0	5.0	O	1/15/2015	mg/kg	< 2.0	4.4	100	< 1.0	< 1.0	13	--	--	--	5.0	16	--	3.6	--	--	< 0.10	3.2	22	< 1.0	< 1.0	< 0.78	32	40	--
	B-5-10	10	O	1/15/2015	mg/kg	< 2.0	1.6	79	< 1.0	< 1.0	9.1	--	--	--	5.1	14	--	7.6	--	--	0.14	< 1.0	7.9	< 1.0	< 1.0	< 0.78	28	38	--
	B-5-15	15	O	1/15/2015	mg/kg	< 2.0	< 1.0	49	< 1.0	< 1.0	5.8	--	--	--	3.2	5.4	--	1.2	--	--	< 0.10	< 1.0	4.5	< 1.0	< 1.0	< 0.78	18	24	--
	B-5-20	20	O	1/15/2015	mg/kg	< 2.0	< 1.0	69	< 1.0	< 1.0	7.1	--	--	--	4.7	8.6	--	1.6	--	--	0.14	< 1.0	5.8	< 1.0	< 1.0	< 0.78	25	31	--
	B-105-20	20	FD	1/15/2015	mg/kg	< 2.0	1.0	61	< 1.0	< 1.0	7.2	--	--	--	4.2	8.1	--	1.4	--	--	< 0.10	< 1.0	5.4	< 1.0	< 1.0	< 0.78	24	29	--
	B-5-25	25	O	1/15/2015	mg/kg	< 2.0	< 1.0	85	< 1.0	< 1.0	9.4	--	--	--	6.4	10	--	1.7	--	--	< 0.10	< 1.0	8.2	< 1.0	< 1.0	< 0.78	30	35	--
	B-5-30	30	O	1/15/2015	mg/kg	< 2.0	1.0	39	< 1.0	< 1.0	3.0	--	--	--	2.3	4.3	--	1.1	--	--	< 0.10	< 1.0	2.5	< 1.0	< 1.0	< 0.78	12	16	--
B-6	B-6-0.5	0.5	O	1/16/2015	mg/kg	< 2.0	< 1.0	36	< 1.0	< 1.0	6.0	--	--	--	2.7	11	--	8.2	--	--	< 0.10	< 1.0	4.1	< 1.0	< 1.0	< 0.78	17	24	--
	B-6-5.0	5.0	O	1/16/2015	mg/kg	< 2.0	1.7	100	< 1.0	< 1.0	11	--	--	--	6.8	15	--	3.1	--	--	< 0.10	< 1.0	10	< 1.0	< 1.0	< 0.78	33	43	--
	B-6-10	10	O	1/16/2015	mg/kg	< 2.0	2.2	120	< 1.0	< 1.0	13	--	--	--	7.9	17	--	4.3	--	--	< 0.10	< 1.0	12	< 1.0	< 1.0	< 0.78	38	49	--
	B-6-15	15	O	1/16/2015	mg/kg	< 2.0	< 1.0	34	< 1.0	< 1.0	3.0	--	--	--	1.9	3.7	--	< 1.0	--	--	< 0.10	< 1.0	2.5	< 1.0	< 1.0	< 0.78	11	14	--
	B-6-20	20	O	1/16/2015	mg/kg	< 2.0	< 1.0	140	< 1.0	< 1.0	16	--	--	--	11	26	--	4.0	--	--	< 0.10	< 1.0	15	< 1.0	< 1.0	< 0.78	41	55	--
	B-6-25	25	O	1/16/2015	mg/kg	< 2.0	< 1.0	34	< 1.0	< 1.0	6.6	--	--	--	2.1	4.0	--	1.2	--	--	< 0.10	< 1.0	2.7	< 1.0	< 1.0	< 0.78	17	15	--
	B-106-25	25	FD	1/16/2015	mg/kg	< 2.0	< 1.0	36	< 1.0	< 1.0	4.5	--	--	--	2.2	4.0	--	< 1.0	--	--	< 0.10	< 1.0	2.4	< 1.0	< 1.0	< 0.78	14	15	--
	B-6-30	30	O	1/16/2015	mg/kg	< 2.0	< 1.0	35	< 1.0	< 1.0	4.6	--	--	--	2.1	4.2	--	1.1	--	--	< 0.10	< 1.0	2.8	< 1.0	< 1.0	< 0.78	14	15	--
B-7	B-7-0.5	0.5	O	1/19/2015	mg/kg	< 2.0	1.1	54	< 1.0	< 1.0	6.5	--	--	--	3.4	9.0	--	8.4	--	--	< 0.10	< 1.0	5.2	< 1.0	< 1.0	< 0.78	22	30	--
	B-7-5.0	5.0	O	1/19/2015	mg/kg	< 2.0	1.0	65	< 1.0	< 1.0	7.6	--	--	--	4.2	8.3	--	1.6	--	--	0.77	< 1.0	5.5	< 1.0	< 1.0	< 0.78	30	28	--
	B-7-10	10	O	1/19/2015	mg/kg	< 2.0	1.1	71	< 1.0	< 1.0	7.6	--	--	--	4.8	8.4	--	1.7	--	--	< 0.10	< 1.0	6.3	< 1.0	< 1.0	< 0.78	28	33	--
	B-7-15	15	O	1/19/2015	mg/kg	< 2.0	< 1.0	79	< 1.0	< 1.0	8.9	--	--	--	5.2	9.8	--	1.7	--	--	< 0.10	< 1.0	6.7	< 1.0	< 1.0	< 0.78	35	34	--
	B-7-20	20	O	1/19/2015	mg/kg	< 2.0	1.0	63	< 1.0	< 1.0	7.4	--	--	--	4.3	8.6	--	1.9	--	--	< 0.10	< 1.0	5.7	< 1.0	< 1.0	< 0.78	28	30	--
	B-7-25	25	O	1/19/2015	mg/kg	< 2.0	< 1.0	35	< 1.0	< 1.0	4.5	--	--	--	1.8	3.5	--	< 1.0	--	--	< 0.10	< 1.0	2.6	< 1.0	< 1.0	< 0.78	13	13	--
	B-7-30	30	O	1/19/2015	mg/kg	< 2.0	1.1	66	< 1.0	< 1.0	6.5	--	--	--	4.5	7.9	--	1.4	--	--	< 0.10	< 1.0	4.9	< 1.0	< 1.0	< 0.78	24	27	--
B-8	B-8-1.5	1.5	O	1/14/2015	mg/kg	< 2.0	< 1.0	47	< 1.0	< 1.0	6.8	--	--	--	3.1	7.7	--	1.8	--	--	< 0.10	< 1.0	4.6	< 1.0	< 1.0	< 0.78	17	20	--
	B-8-5.0	5.0	O	1/14/2015	mg/kg	< 2.0	< 1.0	63	< 1.0	< 1.0	6.6	--	--	--	3.6	7.5	--	1.4	--	--	< 0.10	< 1.0	5.2	< 1.0	< 1.0	< 0.78	20	23	--
	B-8-10	10	O	1/14/2015	mg/kg	< 2.0	< 1.0	41	< 1.0	< 1.0	5.4	--	--	--	2.7	6.1	--	5.7	--	--	< 0.10	< 1.0	3.8	< 1.0	< 1.0	< 0.78	17	19	--
	B-8-15	15	O	1/14/2015	mg/kg	< 2.0	1.2	65	< 1.0	< 1.0	7.1	--	--	--	4.7	11	--	3.5	--	--	< 0.10	< 1.0	6.1	< 1.0	< 1.0	< 0.78	23	29	--
	B-8-20	20	O	1/14/2015	mg/kg	< 2.0	1.4	160	< 1.0	< 1.0	15	--	--	--	8.6	29	--	5.6	--	--	0.14	< 1.0	12	1.5	< 1.0	< 0.78	37	43	--
	B-8-25	25	O	1/14/2015	mg/kg	< 2.0	1.2	62	< 1.0	< 1.0	5.8	--	--	--	4.1	7.5	--	1.4	--	--	< 0.10	< 1.0	5.2	< 1.0	< 1.0	< 0.78	23	26	--
	B-108-25	25	FD	1/14/2015	mg/kg	< 2.0	< 1.0	39	< 1.0	< 1.0	4.5	--	--	--	2.8	5.1	--	< 1.0	--	--	< 0.10	< 1.0	3.6	< 1.0	< 1.0	< 0.78	16	19	--
	B-8-30	30	O	1/14/2015	mg/kg	< 2.0	< 1.0	54	< 1.0	< 1.0	5.6	--	--	--	3.6	6.2	--	1.3	--	--	< 0.10	< 1.0	4.2	< 1.0	< 1.0	< 0.78	21	22	--

TABLE 3
Soil Analytical Results for Metals
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	Unit	Metals by EPA Method 6010B/7471A																							
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Hexavalent Chromium	Chromium STLC	Chromium TCLP	Cobalt	Copper	Copper STLC (mg/L)	Lead	Lead STLC (mg/L)	Lead TCLP (mg/L)	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Zinc STLC (mg/L)
B-9	B-9-0.5	0.5	O	1/16/2015	mg/kg	< 2.0	3.8	99	< 1.0	< 1.0	73	--	2.8	--	6.3	37	--	260	18	0.39	< 0.10	< 1.0	12	< 1.0	< 1.0	< 0.78	32	170	--
	B-9-5.0	5.0	O	1/16/2015	mg/kg	< 2.0	4.9	100	< 1.0	< 1.0	11	--	--	--	6.3	23	--	18	--	--	0.13	< 1.0	12	< 1.0	< 1.0	< 0.78	29	51	--
	B-109-5.0	5.0	FD	1/16/2015	mg/kg	< 2.0	6.7	86	< 1.0	< 1.0	9.1	--	--	--	4.9	21	--	28	--	--	< 0.10	< 1.0	9.9	< 1.0	< 1.0	< 0.78	28	54	--
	B-9-10	10	O	1/16/2015	mg/kg	< 2.0	< 1.0	62	< 1.0	< 1.0	7.5	--	--	--	4.0	8.5	--	1.9	--	--	< 0.10	< 1.0	5.4	< 1.0	< 1.0	< 0.78	27	29	--
	B-9-15	15	O	1/16/2015	mg/kg	< 2.0	1.0	53	< 1.0	< 1.0	6.1	--	--	--	3.5	6.1	--	1.8	--	--	< 0.10	< 1.0	4.5	< 1.0	< 1.0	< 0.78	24	26	--
	B-9-20	20	O	1/16/2015	mg/kg	< 2.0	< 1.0	34	< 1.0	< 1.0	3.8	--	--	--	2.2	4.4	--	1.0	--	--	< 0.10	< 1.0	3.1	< 1.0	< 1.0	< 0.78	11	14	--
	B-9-25	25	O	1/16/2015	mg/kg	< 2.0	1.2	51	< 1.0	< 1.0	6.5	--	--	--	3.6	8.3	--	1.7	--	--	< 0.10	< 1.0	5.2	< 1.0	< 1.0	< 0.78	19	24	--
	B-9-30	30	O	1/16/2015	mg/kg	< 2.0	2.2	110	< 1.0	< 1.0	12	--	--	--	7.4	20	--	3.4	--	--	< 0.10	< 1.0	10	< 1.0	< 1.0	< 0.78	29	40	--
B-10	B-10-0.5	0.5	O	1/15/2015	mg/kg	< 2.0	< 1.0	40	< 1.0	< 1.0	4.8	--	--	--	2.6	5.0	--	1.7	--	--	< 0.10	< 1.0	3.5	1.1	< 1.0	< 0.78	17	22	--
	B-10-5.0	5.0	O	1/15/2015	mg/kg	< 2.0	1.4	110	< 1.0	< 1.0	13	--	--	--	8.2	18	--	2.9	--	--	< 0.10	< 1.0	11	2.5	< 1.0	< 0.78	42	49	--
	B-10-10	10	O	1/15/2015	mg/kg	< 2.0	< 1.0	38	< 1.0	< 1.0	5.6	--	--	--	2.6	5.3	--	1.7	--	--	< 0.10	< 1.0	3.4	< 1.0	< 1.0	< 0.78	15	20	--
	B-10-15	15	O	1/15/2015	mg/kg	< 2.0	< 1.0	39	< 1.0	< 1.0	4.7	--	--	--	2.5	6.0	--	2.2	--	--	< 0.10	< 1.0	4.3	< 1.0	< 1.0	< 0.78	14	17	--
	B-10-20	20	O	1/15/2015	mg/kg	< 2.0	< 1.0	51	< 1.0	< 1.0	6.4	--	--	--	3.9	6.8	--	4.0	--	--	< 0.10	< 1.0	4.7	1.6	< 1.0	< 0.78	21	28	--
	B-10-25	25	O	1/15/2015	mg/kg	< 2.0	< 1.0	42	< 1.0	< 1.0	4.7	--	--	--	3.0	5.3	--	4.7	--	--	< 0.10	< 1.0	3.8	1.2	< 1.0	< 0.78	17	22	--
	B-10-30	30	O	1/15/2015	mg/kg	< 2.0	1.6	80	< 1.0	< 1.0	11	--	--	--	7.1	15	--	2.5	--	--	< 0.10	< 1.0	9.1	1.9	< 1.0	< 0.78	37	41	--
B-11	B-11-0.5	0.5	O	1/16/2015	mg/kg	4.6	4.4	70	< 1.0	< 1.0	24	--	--	--	3.7	36	--	91	81	0.19	< 0.10	< 1.0	7.9	< 1.0	< 1.0	< 0.78	29	77	--
	B-11-5.0	5.0	O	1/16/2015	mg/kg	< 2.0	1.5	90	< 1.0	< 1.0	13	--	--	--	6.5	15	--	6.7	--	--	< 0.10	< 1.0	9.4	< 1.0	< 1.0	< 0.78	30	40	--
	B-11-10	10	O	1/16/2015	mg/kg	< 2.0	< 1.0	48	< 1.0	< 1.0	8.0	--	--	--	3.4	6.0	--	3.5	--	--	< 0.10	< 1.0	4.4	< 1.0	< 1.0	< 0.78	23	27	--
	B-111-10	10	FD	1/16/2015	mg/kg	< 2.0	< 1.0	43	< 1.0	< 1.0	5.4	--	--	--	2.9	4.7	--	3.1	--	--	< 0.10	< 1.0	3.5	< 1.0	< 1.0	< 0.78	20	22	--
	B-11-15	15	O	1/16/2015	mg/kg	< 2.0	< 1.0	45	< 1.0	< 1.0	5.0	--	--	--	2.7	4.7	--	2.0	--	--	< 0.10	< 1.0	3.4	< 1.0	< 1.0	< 0.78	17	19	--
	B-11-20	20	O	1/16/2015	mg/kg	< 2.0	< 1.0	39	< 1.0	< 1.0	4.7	--	--	--	2.1	3.9	--	1.7	--	--	< 0.10	< 1.0	2.9	< 1.0	< 1.0	< 0.78	14	14	--
	B-11-25	25	O	1/16/2015	mg/kg	< 2.0	< 1.0	33	< 1.0	< 1.0	3.6	--	--	--	2.9	4.4	--	1.7	--	--	< 0.10	< 1.0	3.8	< 1.0	< 1.0	< 0.78	14	18	--
	B-11-30	30	O	1/16/2015	mg/kg	< 2.0	< 1.0	33	< 1.0	< 1.0	3.0	--	--	--	1.8	3.2	--	1.3	--	--	< 0.10	< 1.0	2.3	< 1.0	< 1.0	< 0.78	12	14	--
B-12	B-12-0.5	0.5	O	1/19/2015	mg/kg	< 2.0	1.7	64	< 1.0	< 1.0	8.5	--	--	--	3.8	16	--	55	2.4	--	< 0.10	< 1.0	6.9	< 1.0	< 1.0	< 0.78	26	95	--
	B-12-5.0	5.0	O	1/19/2015	mg/kg	< 2.0	< 1.0	34	< 1.0	< 1.0	4.4	--	--	--	2.4	4.9	--	1.5	--	--	< 0.10	< 1.0	3.0	< 1.0	< 1.0	< 0.78	17	18	--
	B-12-10	10	O	1/19/2015	mg/kg	< 2.0	1.3	95	< 1.0	< 1.0	8.3	--	--	--	5.5	11	--	5.1	--	--	< 0.10	< 1.0	7.8	< 1.0	< 1.0	< 0.78	32	44	--
	B-12-15	15	O	1/19/2015	mg/kg	< 2.0	< 1.0	56	< 1.0	< 1.0	6.5	--	--	--	3.7	7.0	--	1.3	--	--	< 0.10	< 1.0	4.7	< 1.0	< 1.0	< 0.78	23	25	--
	B-12-20	20	O	1/19/2015	mg/kg	< 2.0	< 1.0	54	< 1.0	< 1.0	6.2	--	--	--	3.4	6.7	--	1.2	--	--	< 0.10	< 1.0	4.3	< 1.0	< 1.0	< 0.78	23	23	--
	B-12-25	25	O	1/19/2015	mg/kg	< 2.0	1.3	58	< 1.0	< 1.0	9.5	--	--	--	4.5	7.5	--	1.4	--	--	< 0.10	< 1.0	5.2	< 1.0	< 1.0	< 0.78	31	27	--
	B-12-30	30	O	1/19/2015	mg/kg	< 2.0	< 1.0	50	< 1.0	< 1.0	7.2	--	--	--	3.6	7.2	--	1.3	--	--	< 0.10	< 1.0	5.0	< 1.0	< 1.0	< 0.78	24	24	--
B-13	B-13-0.5	0.5	O	1/19/2015	mg/kg	< 2.0	1.5	290	< 1.0	< 1.0	3.3	--	--	--	5.5	11	--	2.6	--	--	< 0.10	< 1.0	2.7	1.1	< 1.0	< 0.78	49	40	--
	B-13-5.0	5.0	O	1/19/2015	mg/kg	< 2.0	< 1.0	84	< 1.0	< 1.0	9.1	--	--	--	5.5	12	--	2.2	--	--	< 0.10	< 1.0	7.7	< 1.0	< 1.0	< 0.78	31	38	--
	B-13-10	10	O	1/19/2015	mg/kg	< 2.0	< 1.0	34	< 1.0	< 1.0	5.4	--	--	--	2.6	4.9	--	1.9	--	--	< 0.10	< 1.0	3.3	< 1.0	< 1.0	< 0.78	21	18	--
	B-113-10	10	FD	1/19/2015	mg/kg	< 2.0	< 1.0	33	< 1.0	< 1.0	5.5	--	--	--	2.6	5.7	--	1.7	--	--	< 0.10	< 1.0	3.5	< 1.0	< 1.0	< 0.78	18	17	--
	B-13-15	15	O	1/19/2015	mg/kg	< 2.0	< 1.0	45	< 1.0	< 1.0	6.9	--	--	--	2.6	6.6	--	1.7	--	--	< 0.10	< 1.0	4.1	< 1.0	< 1.0	< 0.78	17	18	--
	B-13-20	20	O	1/19/2015	mg/kg	< 2.0	< 1.0	50	< 1.0	< 1.0	7.5	--	--	--	3.5	6.7	--	1.1	--	--	< 0.10	< 1.0	4.2	< 1.0	< 1.0	< 0.78	28	21	--
	B-13-25	25	O	1/19/2015	mg/kg	< 2.0	3.4	110	< 1.0	< 1.0	16	--	--	--	9.4	24	--	3.5	--	--	< 0.10	2.6	14	1.0	< 1.0	< 0.78	39	46	--
	B-13-30	30	O	1/19/2015	mg/kg	< 2.0	< 1.0	49	< 1.0	< 1.0	3.9	--	--	--	2.3	4.3	--	< 1.0	--	--	< 0.10	< 1.0	2.9	< 1.0	< 1.0	< 0.78	14	16	--
B-14	B-14-0.5	0.5	O	1/16/2015	mg/kg	< 2.0	4.3	69	< 1.0	< 1.0	80	--	1.0	--	4.8	42	--	220	5.4	< 0.050	< 0.10	61	22	< 1.0	< 1.0	< 0.78	33	170	--
	B-114-0.5	0.5	FD	1/16/2015	mg/kg	< 2.0	1.2	51	< 1.0	< 1.0	7.8	--	--	--	3.1	10	--	12	--	--	< 0.10	< 1.0	4.6	< 1.0	< 1.0	< 0.78	21	32	--
	B-14-5.0	5.0	O	1/16/2015	mg/kg	< 2.0	1.3	40	< 1.0	< 1.0	5.4	--	--	--	3.0	5.2	--	1.6	--	--	< 0.10	< 1.0	3.9	< 1.0	< 1.0	< 0.78	20	22	--
	B-14-10	10	O	1/16/2015	mg/kg	< 2.0	6.7	140	< 1.0	1.0	14	--	--	--	5.6	31	--	48	--	--	< 0.10	2.9	21	< 1.0	< 1.0	< 0.78	37	150	--
	B-14-15	15	O	1/16/2015	mg/kg	< 2.0	< 1.0	28	< 1.0	< 1.0	2.9	--	--	--	1.8	3.0	--	< 1.0	--	--	< 0.10	< 1.0	2.2	< 1.0	< 1.0	< 0.78	12	12	--
	B-14-20	20	O	1/16/2015	mg/kg	< 2.0	< 1.0	46	< 1.0	< 1.0	4.4	--	--	--	3.5	4.7	--	1.1	--	--	< 0.10	< 1.0	3.4	< 1.0	< 1.0	< 0.78	17	18	--
	B-14-25	25	O	1/16/2015	mg/kg	< 2.0	< 1.0	48	< 1.0	< 1.0	4.7	--	--	--	3.7	5.2	--	1.0	--	--	< 0.10	< 1.0	3.4	< 1.0	< 1.0	< 0.78	19	18	--
	B-14-30	30	O	1/16/2015	mg/kg	< 2.0	< 1.0	45	< 1.0	< 1.0	7.3	--	--	--	2.9	5.8	--	1.6	--	--	< 0.10	< 1.0	3.4	< 1.0	< 1.0	< 0.78	17	23	--
B-15	B-15-0.5	0.5	O	1/19/2015	mg/kg	< 2.0	1.4	50	< 1.0	< 1.0	6.8	--	--	--	3.1	9.1	--	19	--	--	< 0.10	< 1.0	5.8	< 1.0	< 1.0	< 0.78	22	29	--
	B-115-0.5	0.5	FD	1/19/2015	mg/kg	< 2.0	1.1	48	< 1.0	< 1.0	5.8	--	--	--	3.0	8.2	--	8.1	--	--	< 0.10	< 1.0	4.7	< 1.0	< 1.0	< 0.78	22	24	--
	B-15-5.0	5.0	O	1/19/2015	mg/kg	< 2.0	4.6	78	< 1.0	< 1.0	16	--	--	--	3.2	23	--	4.6	--	--	0.22	1.4	10	2.3	< 1.0	< 0.78	38	35	--
	B-15-10	10	O	1/19/2015	mg/kg	< 2.0	3.4	110	< 1.0	< 1.0	16	--	--	--	5.5	16	--	6.4	--	--	< 0.10	1.8	13	< 1.0	< 1.0	< 0.78	35	42	--
	B-15-15	15	O	1/19/2015	mg/kg	< 2.0	< 1.0	29	< 1.0	< 1.0	4.3	--	--	--	1.7	3.6	--	< 1.0	--	--	0.37	< 1.0	2.3	< 1.0	< 1.0	< 0.78	14	12	--
	B-15-20	20	O	1/19/2015	mg/kg	< 2.0	< 1.0	93	< 1.0	< 1.0	13	--	--	--	7.5	19	--	3.0	--	--	< 0.10	< 1.0	12	< 1.0	< 1.0	< 0.78	33	41	--
	B-15-25	25	O	1/19/2015	mg/kg	< 2.0	< 1.0	34	< 1.0	< 1.0	5.9	--	--	--	2.0	5.9	--	1.1	--	--	< 0.10	< 1.0	2.9	1.5	< 1.0	< 0.78	31	17	--
	B-15-30	30	O	1/19/2015	mg/kg	< 2.0	< 1.0	51	< 1.0	< 1.0	6.1	--	--	--	3.2	6.0	--	1.2	--	--	< 0.10	< 1.0	4.0	< 1.0	< 1.0	< 0.78	23	22	--
B-16	B-16-1.5	1.5	O	1/13/2015	mg/kg	< 2.0	1.5	110	< 1.0	< 1.0	210	< 1.0	2.0	< 0.050	2.4	26	--	8.0	--	--	< 0.10	1.4	4.6	4.7	< 1.0	< 0.78	190	24	--
	B-16-5.0	5.0	O	1/13/2015	mg/kg	< 2.0	< 1.0	43	< 1.0	< 1.0	6.3	--	--	--	3.6	6.8	--	1.7	--	--	< 0.10	< 1.0	4.6	< 1.0	< 1.0	< 0.78	18	22	--
	B-16-10	10	O	1/13/2015	mg/kg	< 2.0	1.1	51	< 1.0	< 1.0	6.8	--	--	--	3.5	7.1	--	3.3	--	--	< 0.10	< 1.0	4.8	< 1.0	< 1.0	< 0.78	22	25	--
	B-116-10	10	FD	1/13/2015	mg/kg	< 2.0	< 1.0	48	< 1.0	< 1.0	4.3	--	--	--	2.4	4.4	--	1.3	--	--	< 0.10	< 1.0	3.5	< 1.0	< 1.0	< 0.78	16	16	--
	B-16-15	15	O	1/13/2015	mg/kg	< 2.0	1.0	63	< 1.0	< 1.0	8.5	--	--	--	4.2	10	--	2.5	--	--	< 0.10	< 1.0	6.3	< 1.0	< 1.0	< 0.78	23	26	--
	B-16-20	20	O	1/13/2015	mg/kg	< 2.0	< 1.0	36	< 1.0	< 1.0	4.1	--	--	--	2.3	4.1	--	1.4	--	--	< 0.10	< 1.0	2.9	< 1.0	< 1.0	< 0.78	15	17	--
	B-16-25	25	O	1/13/2015	mg/kg	< 2.0	< 1.0	24	< 1.0	< 1.0	3.2	--	--	--	2.0	3.3	--	< 1.0	--	--	< 0.10	< 1.0	2.2	< 1.0	< 1.0	< 0.78	14	12	--
	B-16-30	30	O	1/13/2015	mg/kg	< 2.0	< 1.0	31	< 1.0	< 1.0	3.6	--	--	--	1.8	4.1	--	< 1.0	--	--	< 0.10	< 1.0	1.8	< 1.0	< 1.0	< 0.78	11	13	--

TABLE 3
Soil Analytical Results for Metals
Taylor Yard Parcel G-1
2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Sample Depth (feet)	Sample Type	Date Sampled	Unit	Metals by EPA Method 6010B/7471A																							
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Hexavalent Chromium	Chromium STLC	Chromium TCLP	Cobalt	Copper	Copper STLC (mg/L)	Lead	Lead STLC (mg/L)	Lead TCLP (mg/L)	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Zinc STLC (mg/L)
B-19	B-19-0.5	0.5	O	1/14/2015	mg/kg	< 2.0	1.4	59	< 1.0	< 1.0	8.2	--	--	--	3.4	14	--	15	--	--	< 0.10	< 1.0	6.0	< 1.0	< 1.0	< 0.78	21	32	--
	B-19-5.0	5.0	O	1/14/2015	mg/kg	< 2.0	1.6	72	< 1.0	< 1.0	7.1	--	--	--	3.5	18	--	390	18	2.1	< 0.10	< 1.0	5.5	< 1.0	< 1.0	< 0.78	21	100	--
	B-19-10	10	O	1/14/2015	mg/kg	< 2.0	1.0	53	< 1.0	< 1.0	6.3	--	--	--	3.4	6.4	--	2.9	--	--	< 0.10	< 1.0	4.6	< 1.0	< 1.0	< 0.78	22	24	--
	B-19-15	15	O	1/14/2015	mg/kg	< 2.0	1.0	31	< 1.0	< 1.0	8.3	--	--	--	3.1	5.9	--	5.4	--	--	< 0.10	< 1.0	3.8	1.2	< 1.0	< 0.78	34	19	--
	B-119-15	15	FD	1/14/2015	mg/kg	< 2.0	1.6	46	< 1.0	< 1.0	5.2	--	--	--	3.0	5.8	--	2.3	--	--	< 0.10	< 1.0	3.8	< 1.0	< 1.0	< 0.78	18	22	--
	B-19-20	20	O	1/14/2015	mg/kg	< 2.0	< 1.0	51	< 1.0	< 1.0	5.0	--	--	--	3.0	5.8	--	6.7	--	--	< 0.10	< 1.0	4.1	< 1.0	< 1.0	< 0.78	17	22	--
	B-19-25	25	O	1/14/2015	mg/kg	< 2.0	< 1.0	49	< 1.0	< 1.0	5.5	--	--	--	3.1	5.7	--	1.3	--	--	< 0.10	< 1.0	3.8	< 1.0	< 1.0	< 0.78	20	21	--
	B-19-30	30	O	1/14/2015	mg/kg	< 2.0	1.2	45	< 1.0	< 1.0	4.1	--	--	--	2.5	4.8	--	1.5	--	--	< 0.10	< 1.0	3.1	< 1.0	< 1.0	< 0.78	17	21	--
B-20	B-20-0.5	0.5	O	1/15/2015	mg/kg	< 2.0	1.3	51	< 1.0	< 1.0	9.2	--	--	--	3.6	11	--	22	--	--	< 0.10	< 1.0	6.0	< 1.0	< 1.0	< 0.78	21	78	--
	B-20-5.0	5.0	O	1/15/2015	mg/kg	< 2.0	< 1.0	44	< 1.0	< 1.0	4.5	--	--	--	2.8	5.0	--	2.4	--	--	< 0.10	< 1.0	3.7	< 1.0	< 1.0	< 0.78	16	21	--
	B-20-10	10	O	1/15/2015	mg/kg	< 2.0	< 1.0	50	< 1.0	< 1.0	5.0	--	--	--	3.3	6.3	--	1.4	--	--	< 0.10	< 1.0	4.1	< 1.0	< 1.0	< 0.78	18	21	--
	B-20-15	15	O	1/15/2015	mg/kg	< 2.0	1.0	70	< 1.0	< 1.0	8.0	--	--	--	4.4	8.9	--	2.3	--	--	< 0.10	< 1.0	6.6	< 1.0	< 1.0	< 0.78	25	33	--
	B-20-20	20	O	1/15/2015	mg/kg	< 2.0	< 1.0	89	< 1.0	< 1.0	10	--	--	--	6.2	13	--	3.0	--	--	< 0.10	< 1.0	8.6	1.1	< 1.0	< 0.78	27	37	--
	B-20-25	25	O	1/15/2015	mg/kg	< 2.0	2.2	29	< 1.0	< 1.0	2.5	--	--	--	2.5	8.7	--	1.2	--	--	< 0.10	< 1.0	2.9	< 1.0	< 1.0	< 0.78	15	27	--
	B-20-30	30	O	1/15/2015	mg/kg	< 2.0	< 1.0	42	< 1.0	< 1.0	10	--	--	--	2.8	7.0	--	1.5	--	--	< 0.10	< 1.0	6.1	< 1.0	< 1.0	< 0.78	14	18	--
B-21	B-21-0.5	0.5	O	3/11/2015	mg/kg	<2.0	<1.0	91	<1.0	<1.0	10	--	--	--	4.0	27	--	130	10	4.7	<0.10	<1.0	7.9	<1.0	<1.0	<0.78	24	74	--
	B-21-5.0	5.0	O	3/11/2015	mg/kg	<2.0	<1.0	55	<1.0	<1.0	7.6	--	--	--	3.7	7.5	--	2.8	--	--	<0.10	<1.0	5.0	<1.0	<1.0	<0.78	21	25	--
	B-21-10	10	O	3/11/2015	mg/kg	<2.0	<1.0	41	<1.0	<1.0	5.7	--	--	--	2.9	1,600	<1.0	220	<1.0	<0.050	<0.10	<1.0	9.9	<1.0	<1.0	<0.78	18	4,700	<1.0
	B-21-15	15	O	3/11/2015	mg/kg	<2.0	<1.0	63	<1.0	<1.0	8.8	--	--	--	3.7	24	--	160	5.2	0.084	<0.10	<1.0	5.9	<1.0	<1.0	<0.78	20	47	--
	B-21-20	20	O	3/11/2015	mg/kg	<2.0	<1.0	45	<1.0	<1.0	5.7	--	--	--	2.8	10	--	3.1	--	--	<0.10	<1.0	3.9	<1.0	<1.0	<0.78	17	25	--
	B-121-20	20	FD	3/11/2015	mg/kg	<2.0	<1.0	37	<1.0	<1.0	5.3	--	--	--	2.5	7.8	--	2.7	--	--	<0.10	<1.0	3.5	<1.0	<1.0	<0.78	16	23	--
	B-21-25	25	O	3/11/2015	mg/kg	<2.0	<1.0	47	<1.0	<1.0	6.0	--	--	--	2.9	4.5	--	7.5	--	--	<0.10	<1.0	3.5	<1.0	<1.0	<0.78	17	24	--
	B-21-30	30	O	3/11/2015	mg/kg	<2.0	<1.0	47	<1.0	<1.0	13	--	--	--	3.4	7.5	--	12	--	--	<0.10	<1.0	4.8	<1.0	<1.0	<0.78	21	32	--
B-22	B-22-0.5	0.5	O	3/11/2015	mg/kg	<2.0	1.1	55	<1.0	<1.0	8.9	--	--	--	3.4	12	--	20	4.4	<0.050	<0.10	<1.0	5.8	<1.0	<1.0	<0.78	22	37	--
	B-122-0.5	0.5	FD	3/11/2015	mg/kg	<2.0	<1.0	48	<1.0	<1.0	7.9	--	--	--	2.9	7.7	--	14	--	--	<0.10	<1.0	4.3	<1.0	<1.0	<0.78	19	28	--
	B-22-5.0	5.0	O	3/11/2015	mg/kg	2.2	<1.0	68	<1.0	<1.0	7.4	--	--	--	3.3	17	--	110	6.9	0.72	<0.10	<1.0	5.2	<1.0	<1.0	<0.78	20	75	--
	B-22-10	10	O	3/11/2015	mg/kg	<2.0	<1.0	46	<1.0	<1.0	7.5	--	--	--	3.5	5.9	--	2.9	--	--	<0.10	<1.0	4.5	<1.0	<1.0	<0.78	25	23	--
	B-22-15	15	O	3/11/2015	mg/kg	<2.0	<1.0	74	<1.0	<1.0	12	--	--	--	3.8	17	--	77	4.6	--	<0.10	<1.0	6.0	<1.0	<1.0	<0.78	21	58	--
	B-22-20	20	O	3/11/2015	mg/kg	<2.0	<1.0	47	<1.0	<1.0	5.9	--	--	--	3.2	4.9	--	2.7	--	--	<0.10	<1.0	3.7	<1.0	<1.0	<0.78	19	23	--
	B-22-25	25	O	3/11/2015	mg/kg	<2.0	<1.0	39	<1.0	<1.0	5.5	--	--	--	2.7	4.5	--	13	--	--	<0.10	<1.0	3.2	<1.0	<1.0	<0.78	18	20	--
	B-22-30	30	O	3/11/2015	mg/kg	<2.0	<1.0	42	<1.0	<1.0	5.9	--	--	--	2.7	3.9	--	1.6	--	--	<0.10	<1.0	3.2	<1.0	<1.0	<0.78	18	18	--
B-23	B-23-0.5	0.5	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-5.0	5.0	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-10	10	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-15	15	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-20	20	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-25	25	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-30	30	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-23-35	35	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-123-35	35	FD	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-24	B-24-5.0	5.0	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-10	10	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-15	15	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-20	20	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-25	25	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-30	30	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-24-35	35	O	3/10/2015	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Equipment Blanks																													
Equipment Blank	EB-1	--	O	1/13/2015	mg/L	< 0.010	< 0.010	< 0.0030	< 0.0030	< 0.0030	< 0.0030	--	--	--	< 0.0030	< 0.0090	--	< 0.0050	--	--	< 0.20	< 0.0050	< 0.0050	< 0.010	< 0.0030	< 0.015	< 0.0030	< 0.025	--
	EB-2	--	O	1/14/2015	mg/L	< 0.010	< 0.010	< 0.0030	< 0.0030	< 0.0030	< 0.0030	--	--	--	< 0.0030	< 0.0090	--	< 0.0050	--	--	< 0.20	< 0.0050	< 0.0050	< 0.010	< 0.0030	< 0.015	< 0.0030	0.56	--
	EB-3	--	O	1/15/2015	mg/L	< 0.010	< 0.010	< 0.0030	< 0.0030	< 0.0030	< 0.0030	--	--	--	< 0.0030	< 0.0090	--	< 0.0050	--	--	< 0.20	< 0.0050	< 0.0050	< 0.010	< 0.0030	< 0.015	< 0.0030	0.048	--
	EB-4	--	O	1/16/2015	mg/L	< 0.010	< 0.010	< 0.0030	< 0.0030	< 0.0030	< 0.0030	--	--	--	< 0.0030	< 0.0090	--	< 0.0050	--	--	< 0.20	< 0.0050	< 0.0050	< 0.010	< 0.0030	< 0.015	< 0.0030	< 0.025	--
	EB-5	--	O	1/19/2015	mg/L	< 0.010	< 0.010	< 0.0030	< 0.0030	< 0.0030	< 0.0030	--	--	--	< 0.0030	< 0.0090	--	< 0.0050	--	--	< 0.20	< 0.0050	< 0.0050	< 0.010	< 0.0030	< 0.015	< 0.0030	< 0.025	--
	EB-6	--	O	3/10/2015	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EB-7	--	O	3/11/2015	mg/L	<0.010	<0.010	<0.0030	<0.0030	<0.0030	<0.0030				<0.0030	<0.0090	--	<0.0050	--	--	<0.20	<0.0050	<0.0050	<0.010	<0.0030	<0.015	<0.0030	<0.025	--
Screening Criteria																													
Residential RSL						31	0.67	15,000	160	70	120,000	0.30	--	--	23	3,100	--	400	--	--	9.4	390	820	390	390	0.78	390	23,000	--
DTSC HERO HHRA Note Number 3						--	--	--	--	--	--	--	--	--	--	--	--	80	--	--	--	--	--	--	--	--	--	--	--
DTSC 2008 California Background						--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STLC (mg/L)						--	--	--	--	--	--	--	5.0	--	--	--	25	--	5.0	--	--	--	--	--	--	--	--	--	250
10*STLC						150	50	1,000	10	10	50	--	--	--	800	250	--	50	--	--	2.00	350	200	10	50	70	240	2,500	--
TCLP (mg/L)						--	--	--	--	--	--	--	--	5.0	--	--	--	--	--	5.0	--	--	--	--	--	--	--	--	--
20*TCLP						--	100	2,000	--	20	100	--	--	--	--	--	--	100	--	--	4.00	--	--	20	100	--	--	--	--
TTLC						500	500	10,000	75	100	2,500	--	--	--	8,000	2,500	--	1,000	--	--	20	3,500	2,000	100	500	700	2,400	5,000	--

Notes:

DTSC HERO HHRA = Departmnt of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number 3 for soil in a residential setting (July, 2014).
RSL = USEPA Region 9 Regional Screening Level for Soil in a Residential Setting (January 2015)
DTSC 2008 California Background = Department of Toxic Substances Control (DTSC) \Determination of a Southern California Regional Background Arsenic Concentration in Soil (DTSC, 2008)
TTLC = Total threshold limit concentration
STLC = Soluble threshold limit concentration
TCLP = Toxicity characteristic leaching potential
O = Original field sample
FD = Field duplicate of the above listed sample
mg/kg = Milligrams per kilogram
mg/L = Milligrams per liter
= Shaded area indicates the concentration exceeds regulatory screening levels

TABLE 4

Summary of Soil Gas Analytical Results

Taylor Yard Parcel G-1, 2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Date Sampled	Sample Depth (feet bgs)	Purge Volume	Unit	Chloroform	Tetrachloroethylene	Toluene	Trichloroethylene	Bromodichloromethane	Dibromochloromethane
B-1	B-1-5	1/21/2015	5.0	10	µg/L	<0.008	0.109	<0.008	<0.008	<0.008	<0.008
	B-1-15	1/21/2015	15	10	µg/L	<0.008	0.153	<0.008	<0.008	<0.008	<0.008
	B-1-30	1/21/2015	30	10	µg/L	<0.008	0.270	<0.008	<0.008	<0.008	<0.008
B-3	B-3-5	1/21/2015	5.0	10	µg/L	<0.008	0.128	<0.008	<0.008	<0.008	<0.008
	B-3-15	1/21/2015	15	10	µg/L	<0.008	0.214	<0.008	<0.008	<0.008	<0.008
	B-3-30	1/21/2015	30	10	µg/L	<0.008	0.353	<0.008	<0.008	<0.008	<0.008
B-4	B-4-5	1/21/2015	5.0	10	µg/L	<0.008	0.212	<0.008	<0.008	<0.008	<0.008
	B-4-15	1/21/2015	15	10	µg/L	<0.008	0.508	<0.008	<0.008	<0.008	<0.008
	B-4-30	1/21/2015	30	10	µg/L	<0.008	0.819	<0.008	<0.008	<0.008	<0.008
B-5	B-5-5	1/21/2015	5.0	10	µg/L	<0.008	0.191	<0.008	<0.008	<0.008	<0.008
	B-5-15	1/21/2015	15	10	µg/L	<0.008	0.160	<0.008	<0.008	<0.008	<0.008
	B-5-30	1/21/2015	30	10	µg/L	<0.008	0.453	<0.008	<0.008	<0.008	<0.008
	B-5-30 REP	1/21/2015	30	10	µg/L	<0.008	0.543	<0.008	<0.008	<0.008	<0.008
B-6	B-6-5	1/21/2015	5.0	10	µg/L	0.011	0.155	<0.008	<0.008	0.057	0.008
	B-6-15	1/21/2015	15	10	µg/L	<0.008	0.262	<0.008	<0.008	<0.008	<0.008
	B-6-30	1/21/2015	30	10	µg/L	<0.008	0.619	<0.008	<0.008	<0.008	<0.008
B-8	B-8-5	1/21/2015	5.0	10	µg/L	<0.008	0.266	<0.008	<0.008	<0.008	0.263
	B-8-15	1/21/2015	15	10	µg/L	<0.008	0.257	<0.008	<0.008	<0.008	<0.008
	B-8-30	1/21/2015	30	10	µg/L	<0.008	0.328	<0.008	<0.008	<0.008	<0.008
	B-8-30 dup	1/21/2015	30	10	µg/L	<0.008	0.290	<0.008	<0.008	<0.008	<0.008
B-9	B-9-5	1/21/2015	5.0	10	µg/L	<0.008	0.026	<0.008	<0.008	<0.008	<0.008
	B-9-15	1/21/2015	15	10	µg/L	<0.008	0.074	<0.008	<0.008	<0.008	<0.008
	B-9-30	1/21/2015	30	10	µg/L	<0.008	0.073	<0.008	<0.008	<0.008	<0.008
B-10	B-10-5	1/21/2015	5.0	10	µg/L	<0.008	0.549	<0.008	<0.008	<0.008	<0.008
	B-10-15	1/21/2015	15	10	µg/L	<0.008	1.02	<0.008	<0.008	<0.008	<0.008
	B-10-31	1/21/2015	31	10	µg/L	<0.008	1.32	<0.008	<0.008	<0.008	<0.008
B-11	B-11-5	1/21/2015	5.0	10	µg/L	<0.008	0.039	<0.008	<0.008	<0.008	<0.008
	B-11-5 dup	1/21/2015	5.0	10	µg/L	<0.008	0.043	<0.008	<0.008	<0.008	<0.008
	B-11-15	1/21/2015	15	10	µg/L	<0.008	0.098	<0.008	<0.008	<0.008	<0.008
	B-11-30	1/21/2015	30	10	µg/L	0.010	0.054	<0.008	<0.008	<0.008	<0.008
B-14	B-14-5	1/21/2015	5.0	10	µg/L	<0.008	0.066	<0.008	<0.008	<0.008	<0.008
	B-14-15	1/21/2015	15	10	µg/L	<0.008	0.194	<0.008	<0.008	<0.008	<0.008
	B-14-30	1/21/2015	30	10	µg/L	<0.008	0.102	0.169	<0.008	<0.008	<0.008
B-17	B-17-5	1/21/2015	5.0	10	µg/L	0.014	0.395	<0.008	<0.008	<0.008	0.139
	B-17-15	1/21/2015	15	10	µg/L	<0.008	1.02	<0.008	<0.008	<0.008	<0.008
	B-17-30 1P	1/21/2015	30	1	µg/L	<0.008	0.145	<0.008	<0.008	<0.008	<0.008
	B-17-30 3P	1/21/2015	30	3	µg/L	<0.008	0.157	<0.008	<0.008	<0.008	<0.008
	B-17-30 10P	1/21/2015	30	10	µg/L	<0.008	0.239	<0.008	<0.008	<0.008	<0.008
B-18	B-18-5	1/21/2015	5.0	10	µg/L	<0.008	0.262	<0.008	<0.008	<0.008	<0.008
	B-18-15	1/21/2015	15	10	µg/L	<0.008	0.485	<0.008	<0.008	<0.008	<0.008
	B-18-30	1/21/2015	30	10	µg/L	<0.008	0.473	<0.008	0.118	<0.008	<0.008

TABLE 4

Summary of Soil Gas Analytical Results

Taylor Yard Parcel G-1, 2800 Kerr Street, Los Angeles, California

Boring ID	Sample ID	Date Sampled	Sample Depth (feet bgs)	Purge Volume	Unit	Chloroform	Tetrachloroethylene	Toluene	Trichloroethylene	Bromodichloromethane	Dibromochloromethane
B-19	**B-19-5**	1/21/2015	5.0	10	µg/L	<0.008	**0.161**	<0.008	<0.008	<0.008	<0.008
	B-19-15	1/21/2015	15	10	µg/L	<0.008	**0.373**	<0.008	<0.008	<0.008	<0.008
	B-19-30	1/21/2015	30	10	µg/L	<0.008	**0.635**	<0.008	<0.008	<0.008	<0.008
B-20	**B-20-5**	1/21/2015	5.0	10	µg/L	<0.008	**0.025**	<0.008	<0.008	<0.008	<0.008
	B-20-15	1/21/2015	15	10	µg/L	<0.008	**0.260**	<0.008	<0.008	<0.008	<0.008
	B-20-30	1/21/2015	30	10	µg/L	<0.008	**0.752**	<0.008	<0.008	<0.008	<0.008
Screening Criteria											
CHHSL for Residential Use With Engineered Fill					**µg/L**	**--**	**0.47**	**320**	**1.3**	**--**	**--**

Notes:

<0.008 = Not detected at a concentration greater than 0.008 ug/L

µg/L = Micrograms per liter

bgs = Below ground surface

CHHSL = California Human Health Screening Levels for Residential Properties Constructed with Engineered Fill - OEHHA (September 2010)

rep = Duplicate Sample

Blue highlighted samples exceed corresponding CHHSL value

= Shaded area indicates the concentration exceeds regulatory screening levels

Residential Soil Screening Levels	
Benzo(a)pyrene	110 µg/kg (EPA-RSL)
Benzo(b)fluoranthene	1,100 µg/kg (EPA-RSL)
Benzo(k)fluoranthene	11,000 µg/kg (EPA-RSL)
Indeno(1,2,3-cd)pyrene	1,100 µg/kg (EPA-RSL)
Lead	80 mg/kg (DTSC-SL)
TPH-d	260 mg/kg (ESL)

TPH-d: Total Petroleum Hydrocarbons as Diesel
DWP = Department of Water and Power
DTSC-SL = Department of Toxic Substances Control Screening Level
EPA-RSL = Environmental Protection Agency Regional Screening Level
ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
Bold and Underline = Screening Level Exceedance

Published background arsenic concentration is 12 mg/kg
Determination of a Southern California Regional Background Arsenic Concentration in Soil, DTSC (2018).

0 Scale in Feet 100

PREPARED BY:
Region 9, START
Weston Solutions, Inc.
2300 Clayton Road, Suite 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Brownfields
Program

FIGURE 4
SCREENING LEVEL EXCEEDANCES
LA - W CASITAS AVENUE - 2780
Targeted Brownfields Assessment
LOS ANGELES, LOS ANGELES COUNTY, CA

TABLES

Table 1
Summary of Metals
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID			B-01-0	B-13-0 Duplicate of B-01-0	B-01-5	B-01-20	B-02-0	B-02-5	B-02-20	B-03-0	B-03-5	B-14-5 Duplicate of B-03-5	B-03-20	B-04-0	B-04-5	B-04-20
Sample Date			12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019
Sample Depth (feet below ground surface)			0.5	0.5	5	20	0.5	5	20	0.5	5	5	20	0.5	5	20
Analyte	**EPA RSL Residential (mg/kg)**	**DTSC-SL Residential (mg/kg)**	**Metals - Soil (mg/kg)**													
Antimony	31	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2) J	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Arsenic	0.68	0.11	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	**4.2**	ND (<2)	ND (<2)	ND (<2)	**4.1**	ND (<2)	ND (<2)
Barium	15,000	--	60	59	130	60	220	170	89	95	48	58	110	130	73	56
Beryllium	160	16	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	1.8	0.55	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Cadmium	71	--	0.55	0.86	ND (<0.5)	ND (<0.5)	0.53	0.82	ND (<0.5)	1	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Chromium	12,000	--	110	170	15	9.4	24	21	12	18	8	8.3	15	13	11	7.8
Chromium(VI)	0.3	0.3	ND (<1) J	ND (<1)	--	--	ND (<1)	ND (<1)	--	--	--	--	--	--	--	--
Cobalt	23	--	6.3	6.7	8.3	5.4	6	11	8.6	7.5	4.9	5.6	9.8	8.3	7	4.7
Copper	3,100	--	23	23	15	6.9	58	18	11	230	6.1	6.8	14	18	10	5
Lead	400	80	57	47	14	1.9	**140**	8.5	2.5	**100**	3	2.3	2.9	14	3.6	1.6
Mercury	11	1	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.12	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.12	ND (<0.1)	ND (<0.1)
Molybdenum	390	--	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
Nickel	1,500	820	14 J	8 J	9.8	5.6	12	15	8.3	13	4.6	5.1	9.8	12	6.9	4.2
Selenium	390	--	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)
Silver	390	--	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Thallium	0.78	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Vanadium	390	--	52 J	130 J	30	22	27	47	30	34	22	23	39	33	29	22
Zinc	23,000	--	76	72	86	32	390	59	40	130	25	28	48	58	32	21

Notes:

Bold, Underlined and Highlighted = Analytical result exceeds screening levels
Metals by EPA Method 6010B
Chromium VI by EPA Method 7196A
Mercury by EPA Method 7471A
mg/kg = milligrams per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 1
Summary of Metals
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID			**B-05-0**	**B-05-5**	**B-05-20**	**B-06-0**	**B-06-5**	**B-06-20**	**B-07-0**	**B-07-5**	**B-07-20**	**B-08-0**	**B-08-5**	**B-08-20**
Sample Date			**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)			**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**EPA RSL Residential (mg/kg)**	**DTSC-SL Residential (mg/kg)**	**Metals - Soil (mg/kg)**											
Antimony	31	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2) J	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Arsenic	0.68	0.11	**4.3**	ND (<2)	ND (<2)	**2.2**	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Barium	15,000	--	120	56	35	100	56	49 J	98	59	48	68	58	52
Beryllium	160	16	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Cadmium	71	--	0.59	ND (<0.5)	ND (<0.5)	0.56	ND (<0.5)	ND (<0.5)	1.7	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Chromium	12,000	--	17	9.1	5.6	17	7.6	7.5	17	8.6	5.6	10	9.8	7.6
Chromium(VI)	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	23	--	7.1	5.9	3.5	8.6	5.3	4.7	8.4	5.9	4.5	6.3	5.5	5.4
Copper	3,100	--	120	8.6	ND (<5)	31	6.1	5.9	16	6.3	5.5	11	8.3	5.5
Lead	400	80	39	4.1	3	39	2.7	2.1	11	3.3	4.8	16	6.9	3.5
Mercury	11	1	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.11	ND (<0.1)	ND (<0.1)	0.17	ND (<0.1) J	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)
Molybdenum	390	--	1.2	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	3	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
Nickel	1,500	820	11	5.6	3.1	15	4.4	4	16	5.3	3.4	8.3	5.8	4.5
Selenium	390	--	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)
Silver	390	--	ND (<0.5)	ND (<0.5)	ND (<0.5)	2.4	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Thallium	0.78	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Vanadium	390	--	34	27	15	36	22	20	39	24	21	28	23	21
Zinc	23,000	--	74	32	22	75	25	23	54	29	23	47	34	26

Notes:
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
Metals by EPA Method 6010B
Chromium VI by EPA Method 7196A
Mercury by EPA Method 7471A
mg/kg = milligrams per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 1
Summary of Metals
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID			**B-09-0**	**B-09-5**	**B-10-0**	**B-10-5**	**B-10-20 (Lab ID B-20-20)**	**B-11-0**	**B-11-5**	**B-11-20**	**B-12-0**	**B-12-5**	**B-12-20**
Sample Date			**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)			**0.5**	**5**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**EPA RSL Residential (mg/kg)**	**DTSC-SL Residential (mg/kg)**	**Metals - Soil (mg/kg)**										
Antimony	31	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Arsenic	0.68	0.11	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	**2.4**	ND (<2)	ND (<2)	**2.1**	ND (<2)	ND (<2)
Barium	15,000	--	79	60	120	67	62	120	68	66	84	67	42
Beryllium	160	16	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Cadmium	71	--	ND (<0.5)	ND (<0.5)	0.58	ND (<0.5)	ND (<0.5)	1.2	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Chromium	12,000	--	8.2	7.3	15	8.3	9.8	18	9.3	9.7	8.8	9.6	6.4
Chromium(VI)	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--
Cobalt	23	--	6.9	5	8.1	6	6.6	9	5.8	6.1	7.6	6.2	4.1
Copper	3,100	--	10	7.1	15	8.2	8.1	22	7.9	7.8	17	9.1	ND (<5)
Lead	400	80	6.8	4.7	7.1	2.4	2.2	19	5.4	2.8	17	3.1	2.4
Mercury	11	1	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)
Molybdenum	390	--	ND (<1)	ND (<1)	1.4	ND (<1)	ND (<1)	2.1	ND (<1)	ND (<1)	ND (<1)	1	ND (<1)
Nickel	1,500	820	10	4.7	14	5.8	6.2	17	5.7	5.8	12	5.8	4.3
Selenium	390	--	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)	ND (<4.8)
Silver	390	--	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
Thallium	0.78	--	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Vanadium	390	--	29	20	36	23	26	42	24	25	29	28	19
Zinc	23,000	--	34	27	47	29	29	65	32	28	45	30	21

Notes:
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
Metals by EPA Method 6010B
Chromium VI by EPA Method 7196A
Mercury by EPA Method 7471A
mg/kg = milligrams per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 2
Summary of Total Petroleum Hydrocarbons as Diesel and Motor Oil
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID		**B-01-0**	**B-13-0 Duplicate of B-01-0**	**B-01-5**	**B-01-20**	**B-02-0**	**B-02-5**	**B-02-20**	**B-03-0**	**B-03-5**	**B-14-5 Duplicate of B-03-5**	**B-03-20**	**B-04-0**	**B-04-5**	**B-04-20**
Sample Date		**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**
Sample Depth (feet below ground surface)		**0.5**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**ESL (mg/kg)**	**DROs and MROs - Soil (mg/kg)**													
TPH-d	260	ND (<10)	ND (<10)	38	ND (<10)	**440**	ND (<10)	ND (<10)	**320**	ND (<10)	ND (<10)	ND (<10)	120	ND (<10)	ND (<10)
TPH-mo	12,000	ND (<50)	54	160	ND (<50)	2,000	ND (<50)	ND (<50)	1,300	ND (<50)	ND (<50)	ND (<50)	480	ND (<50)	ND (<50)

Sample ID		**B-05-0**	**B-05-5**	**B-05-20**	**B-06-0**	**B-06-5**	**B-06-20**	**B-07-0**	**B-07-5**	**B-07-20**	**B-08-0**	**B-08-5**	**B-08-20**	**B-09-0**	**B-09-5**
Sample Date		**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**
Analyte	**ESL (mg/kg)**	**DROs and MROs - Soil (mg/kg)**													
TPH-d	260	**320**	ND (<10)	ND (<10)	140	ND (<10)	ND (<10)	27	ND (<10)	ND (<10)	57	27	ND (<10)	**640**	14
TPH-mo	12,000	770	ND (<50)	ND (<50)	500	ND (<50)	ND (<50)	130	ND (<50)	ND (<50)	330	140	ND (<50)	2,900	140

Sample ID		**B-10-0**	**B-10-5**	**B-10-20 (Lab ID B-20-20)**	**B-11-0**	**B-11-5**	**B-11-20**	**B-12-0**	**B-12-5**	**B-12-20**
Sample Date		**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**ESL (mg/kg)**	**DROs and MROs - Soil (mg/kg)**								
TPH-d	260	18	ND (<10)	ND (<10)	23	ND (<10)	ND (<10)	69	11	ND (<10)
TPH-mo	12,000	100	ND (<50)	ND (<50)	110	ND (<50)	ND (<50)	330	86	ND (<50)

Notes
Bold, Underlined and Highlighted = Analytical result exceeds screening level:
TPH-d=total petroleum hydrocarbons as diesel
TPH-mo=total petroleum hydrocarbons as motor oil
Diesel Range Organics (DROs) and Motor Oil Range Organics (MROs) by EPA Method 8015M
mg/kg = milligrams per kilogram
ESL = San Francisco Regional Water Quality Control Board (RWQCB) Tier II Environmental Screening Levels
ND = Non Detect
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)

Table 3
Summary of Total Petroleum Hydrocarbons as Gasoline
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780 TBA

Sample ID		**B-01-5**	**B-01-10**	**B-01-15**	**B-01-20**	**B-02-5**	**B-02-10**	**B-02-15**	**B-02-20**	**B-03-5**	**B-14-5 Duplicate of B-03-5**	**B-03-10**	**B-03-15**	**B-03-20**
Sample Date		**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**
Sample Depth (feet below ground surface)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**20**	**5**	**5**	**10**	**15**	**20**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**												
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)

Sample ID		**B-04-5**	**B-04-10**	**B-04-15**	**B-04-20**	**B-05-5**	**B-05-10**	**B-15-10 Duplicate of B-05-10**	**B-05-15**	**B-05-20**	**B-06-5**	**B-06-10**	**B-06-15**	**B-06-20**
Sample Date		**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/17/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**5**	**10**	**15**	**20**	**5**	**10**	**10**	**15**	**20**	**5**	**10**	**15**	**20**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**												
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)

Sample ID		**B-07-5**	**B-07-10**	**B-07-15**	**B-07-20**	**B-08-5**	**B-08-10**	**B-08-15**	**B-16-15 Duplicate of B-08-15**	**B-08-20**	**B-09-5**	**B-10-5**	**B-10-10**	**B-10-15**
Sample Date		**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**5**	**5**	**10**	**15**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**												
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2) J	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.22)	ND (<0.2)	ND (<0.2)

Sample ID		**B-10-20**	**B-20-20 Duplicate of B-10-20**	**B-11-5**	**B-11-10**	**B-11-15**	**B-11-20**	**B-12-5**	**B-12-10**	**B-12-15**	**B-12-20**
Sample Date		**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)		**20**	**20**	**5**	**10**	**15**	**20**	**5**	**10**	**15**	**20**
Analyte	**ESL (mg/kg)**	**GROs - Soil (mg/kg)**									
TPH-g	430	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)

Notes
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
TPH-g=total petroleum hydrocarbons as gasoline
GROs by EPA Method 8015B
mg/kg = milligrams per kilogram
ESL = San Francisco Regional Water Quality Control Board (RWQCB) Tier II Environmental Screening Levels
ND = Non Detect
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)

Table 4
Summary of Polycyclic Aromatic Hydrocarbons
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780

Sample ID			**B-01-0**	**B-13-0 Duplicate of B-01-0**	**B-01-5**	**B-01-20**	**B-02-0**	**B-02-5**	**B-02-20**	**B-03-0**	**B-03-5**	**B-14-5 Duplicate of B-03-5**	**B-03-20**	**B-04-0**	**B-04-5**	**B-04-20**
Sample Date			12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019	12/17/2019
Sample Depth (feet below ground surface)			0.5	0.5	5	20	0.5	5	20	0.5	5	5	20	0.5	5	20
Analyte	**EPA RSL Residential (µg/kg)**	**DTSC-SL Residential (µg/kg)**	**PAHs - Soil (ug/kg)**													
Acenaphthene	3,600,000	3,300,000	ND (<40) J	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Acenaphthylene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Anthracene	18,000,000	17,000,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benz(a)anthracene	1,100	1,100	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	140 J	ND (<40) J	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(a)pyrene	110	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(b)fluoranthene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(g,h,i)perylene	--	--	ND (<40) J	2,200 J	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Benzo(k)fluoranthene	11,000	11,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Chrysene	110,000	110,000	ND (<40) J	1,900 J	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Dibenz(a,h)anthracene	110	28	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<96)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<96)	ND (<48)	ND (<48)
Fluoranthene	2,400,000		ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<100)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	7,400	ND (<52)	ND (<52)
Fluorene	2,400,000	2,300,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Indeno(1,2,3-cd)pyrene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	**4,600**	ND (<40)	ND (<40)
Naphthalene	2,000	2,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Phenanthrene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<80)	ND (<40)	ND (<40)
Pyrene	1,800,000	1,800,000	ND (<52) J	1,900 J	ND (<52)	ND (<52)	ND (<100)	ND (<52)	ND (<52)	1,600	ND (<52)	ND (<52)	ND (<52)	1,800	ND (<52)	ND (<52)

Sample ID			**B-05-0**	**B-05-5**	**B-05-20**	**B-06-0**	**B-06-5**	**B-06-20**	**B-07-0**	**B-07-5**	**B-07-20**	**B-08-0**	**B-08-5**	**B-08-20**
Sample Date			12/17/2019	12/18/2019	12/18/2019	12/17/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019
Sample Depth (feet below ground surface)			0.5	5	20	0.5	5	20	0.5	5	20	0.5	5	20
Analyte	**EPA RSL Residential (µg/kg)**	**DTSC-SL Residential (µg/kg)**	**PAHs - Soil (ug/kg)**											
Acenaphthene	3,600,000	3,300,000	6,300	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Acenaphthylene	--	--	ND (<120)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Anthracene	18,000,000	17,000,000	40,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benz(a)anthracene	1,100	1,100	190,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(a)pyrene	110	--	ND (<120)	ND (<40)	ND (<40)	**4,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(b)fluoranthene	1,100	--	**140,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(g,h,i)perylene	--	--	66,000	ND (<40)	ND (<40)	2,800	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(k)fluoranthene	11,000	11,000	**46,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Chrysene	110,000	110,000	ND (<120)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Dibenz(a,h)anthracene	110	28	ND (<140)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)
Fluoranthene	2,400,000		ND (<160)	ND (<52)	ND (<52)	7,800	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)
Fluorene	2,400,000	2,300,000	10,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Indeno(1,2,3-cd)pyrene	yes	--	**62,000**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	**4,400**	ND (<40)	ND (<40)
Naphthalene	2,000	2,000	ND (<120)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Phenanthrene	--	--	98,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Pyrene	1,800,000	1,800,000	160,000	ND (<52)	ND (<52)	2,200	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	2,000 J	ND (<52) J	ND (<52) J

Notes
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
PAH = polycyclic aroamatic hydrocarbons by EPA Method 8270C
µg/kg = micrograms per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
DTSC SL = Department of Toxic Substances Control - Screening Levels (California DTSC 2019)
J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable

Table 4
Summary of Polycyclic Aromatic Hydrocarbons
Phase I/II Targeted Brownfields Assessment
LA-W Casitas Ave 2780

Sample ID			**B-09-0**	**B-09-5**	**B-10-0**	**B-10-5**	**B-10-20 (Lab ID B-20-20)**	**B-11-0**	**B-11-5**	**B-11-20**	**B-12-0**	**B-12-5**	**B-12-20**
Sample Date			**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**	**12/18/2019**
Sample Depth (feet below ground surface)			**0.5**	**5**	**0.5**	**5**	**20**	**0.5**	**5**	**20**	**0.5**	**5**	**20**
Analyte	**EPA RSL Residential (µg/kg)**	**DTSC-SL Residential (µg/kg)**	**PAHs - Soil (ug/kg)**										
Acenaphthene	3,600,000	3,300,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40) J	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Acenaphthylene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Anthracene	18,000,000	17,000,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benz(a)anthracene	1,100	1,100	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(a)pyrene	110	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	**750**	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(b)fluoranthene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(g,h,i)perylene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Benzo(k)fluoranthene	11,000	11,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Chrysene	110,000	110,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Dibenz(a,h)anthracene	110	28	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)	ND (<48)
Fluoranthene	2,400,000		ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)	ND (<52)
Fluorene	2,400,000	2,300,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Indeno(1,2,3-cd)pyrene	1,100	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Naphthalene	2,000	2,000	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Phenanthrene	--	--	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)	ND (<40)
Pyrene	1,800,000	1,800,000	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J	ND (<52) J

Notes
Bold, Underlined and Highlighted = Analytical result exceeds screening levels
PAH = polycyclic aroamatic hydrocarbons by EPA Method 8270C
µg/kg = micrograms per kilogram
EPA RSL = Environmental Protection Agency Regional Screening Levels (EPA 2019)
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J = Result is less than the Reporting Limit (RL) but greater than the Method Detection Limit (MDL)
ND = Non Detect
-- = Not Applicable