



Bowtie Parcel Demonstration Wetland
Project Final Initial Study/Mitigated
Negative Declaration

September 7, 2023

Prepared for:

California Department of Parks and
Recreation, Angeles District
1925 Las Virgenes Road
Calabasas, CA 91302

Prepared by:

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

Page Is Intentionally Left Blank

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.

DocuSigned by:

F2C3ACF5D60B4FE...

Richard Fink

Angeles District Superintendent

9/12/2023

Date

DocuSigned by:

5C0726593C45406...

Luke Serna

Associate Park & Recreation Specialist

Southern Service Center Environmental Coordinator

9/12/2023

Date

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 (CDPR) proposes redeveloping the northern portion of a former rail yard into a publicly accessible urban greenspace. The 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.

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 within the Project site and a 500 foot buffer (where accessible).~~ 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; this qualified biologist shall have experience with special-status species known to occur in the region, including least Bell's vireo. 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 CDPR 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 CDPR. 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 CDPR, 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: To avoid impacts to or take of both common and/or special-status birds (e.g., least Bell's vireo), nestlings, or their eggs, and to the extent feasible, no ground-disturbing activities, including staging, as well as disturbances to native and nonnative vegetation should not occur during the recognized breeding season from Feb 15 through September 15 (January 1 through August 15 for raptors) to avoid impacts to or take of common and/or special-status birds, nestlings, or their eggs.

If construction can't avoid the nesting season, then a temporary sound attenuation barrier shall be placed along the western limits of construction to reduce potential construction noise levels in the bed of the adjacent Los Angeles River. The construction contractor shall be responsible for demonstrating the design of the temporary sound attenuation barrier achieves a minimum of a 15 decibel reduction in noise levels.

Prior to initial ground disturbance or vegetation removal (including construction of the sound attenuation barrier), the Applicant shall provide evidence to CDPR 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~~ notify 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 1/4 ~~a 1/4~~ 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, location of nest in relation to the sound attenuation barrier, 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; nest locations within the areas protected by the sound attenuation barrier will only require notification to the USFWS and CDFW. 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 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 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 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 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 CDPR 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 CDPR lands, a permit shall be required from CDPR 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.~~

Based on the results of tribal consultation conducted for the Project pursuant to California Public Resources Code Section 21080.3.1 (d), the Project Proponent shall obtain the services of a qualified Tribal Monitor(s) representing the Gabrieleño Band of Mission Indians-Kizh Nation 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 from the Gabrieleño Band of Mission Indians-Kizh Nation to identify their tribal cultural resources and will be present on-site during the construction phases that involve any ground disturbing activities. The Tribal 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 work conducted during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21084.3 (a) through (b). 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 tribal cultural 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, if encountered, shall be treated appropriately according to the Secretary of Interior Standards. If such material is collected, it shall be curated at a CDPR facility ~~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.~~

Table of Contents

| | |
|--|-----------|
| ABBREVIATIONS | 13 |
| 1.0 INTRODUCTION..... | 15 |
| 1.1 PROJECT TITLE | 15 |
| 1.2 LEAD AGENCY | 15 |
| 1.3 PROJECT SPONSOR..... | 15 |
| 1.4 PROJECT LOCATION | 15 |
| 1.5 PROJECT PURPOSE AND BENEFITS..... | 15 |
| 1.6 RESPONSE TO COMMENTS..... | 16 |
| 1.7 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED | 50 |
| 2.0 PROJECT DESCRIPTION | 51 |
| 2.1 PROJECT OVERVIEW | 51 |
| 2.2 PROJECT LOCATION AND SITE DESCRIPTION | 54 |
| 2.2.1 Current Site Conditions | 54 |
| 2.2.2 Surrounding Land Uses..... | 54 |
| 2.3 PROJECT COMPONENTS | 54 |
| 2.4 PROJECT CONSTRUCTION..... | 58 |
| 2.4.1 Shallow Soil Removal and Site Preparation | 58 |
| 2.4.2 Storm Drain Connection and Treatment System Installation | 58 |
| 2.4.3 Wetland Habitat and Landscape Installation..... | 59 |
| 2.4.4 Amenities | 59 |
| 2.4.5 Construction Schedule | 61 |
| 2.5 PROJECT OPERATION AND MAINTENANCE..... | 61 |
| 3.0 ENVIRONMENTAL SETTING, ANALYSIS, AND MITIGATION MEASURES..... | 62 |
| 3.1 AESTHETICS..... | 64 |
| 3.1.1 Environmental Setting | 64 |
| 3.1.2 Environmental Impact Analysis | 64 |
| 3.2 AGRICULTURAL AND FORESTRY RESOURCES..... | 66 |
| 3.2.1 Environmental Setting | 66 |
| 3.2.2 Environmental Impact Analysis | 66 |
| 3.3 AIR QUALITY | 68 |
| 3.3.1 Environmental Setting | 68 |
| 3.3.2 Environmental Impact Analysis | 69 |
| 3.4 BIOLOGICAL RESOURCES | 73 |
| 3.4.1 Environmental Setting | 73 |
| 3.4.2 Environmental Impact Analysis | 113 |
| 3.5 CULTURAL RESOURCES..... | 124 |
| 3.5.1 Environmental Setting | 124 |
| 3.5.2 Environmental Impact Analysis | 129 |
| 3.6 ENERGY RESOURCES..... | 132 |

| | | |
|--------|--|-----|
| 3.6.1 | Environmental Setting | 132 |
| 3.6.2 | Environmental Impact Analysis | 132 |
| 3.7 | GEOLOGY AND SOILS | 134 |
| 3.7.1 | Environmental Setting | 134 |
| 3.7.2 | Environmental Impact Analysis | 135 |
| 3.8 | GREENHOUSE GASES | 139 |
| 3.8.1 | Environmental Setting | 139 |
| 3.8.2 | Environmental Impact Analysis | 139 |
| 3.9 | HAZARDS AND HAZARDOUS MATERIALS | 142 |
| 3.9.1 | Environmental Setting | 142 |
| 3.9.2 | Environmental Impact Analysis | 143 |
| 3.10 | HYDROLOGY AND WATER QUALITY | 147 |
| 3.10.1 | Environmental Setting | 147 |
| 3.10.2 | Environmental Impact Analysis | 148 |
| 3.11 | LAND USE AND PLANNING | 151 |
| 3.11.1 | Environmental Setting | 151 |
| 3.11.2 | Environmental Impact Analysis | 151 |
| 3.12 | MINERAL RESOURCES | 153 |
| 3.12.1 | Environmental Setting | 153 |
| 3.12.2 | Environmental Impact Analysis | 153 |
| 3.13 | NOISE | 154 |
| 3.13.1 | Environmental Setting | 154 |
| 3.13.2 | Environmental Impact Analysis | 158 |
| 3.14 | POPULATION AND HOUSING | 161 |
| 3.14.1 | Environmental Setting | 161 |
| 3.14.2 | Environmental Impact Analysis | 161 |
| 3.15 | PUBLIC SERVICES | 162 |
| 3.15.1 | Environmental Setting | 162 |
| 3.15.2 | Environmental Impact Analysis | 163 |
| 3.16 | RECREATION | 165 |
| 3.16.1 | Environmental Setting | 165 |
| 3.16.2 | Environmental Impact Analysis | 165 |
| 3.17 | TRANSPORTATION | 166 |
| 3.17.1 | Environmental Setting | 166 |
| 3.17.2 | Environmental Impact Analysis | 167 |
| 3.18 | TRIBAL CULTURAL RESOURCES | 170 |
| 3.18.1 | Environmental Setting | 170 |
| 3.18.2 | Environmental Impact Analysis | 171 |
| 3.19 | UTILITIES AND SERVICE SYSTEMS | 174 |
| 3.19.1 | Environmental Setting | 174 |
| 3.19.2 | Environmental Impact Analysis | 174 |
| 3.20 | WILDFIRE | 176 |
| 3.20.1 | Environmental Setting | 176 |
| 3.20.2 | Environmental Impact Analysis | 176 |
| 3.21 | MANDATORY FINDINGS OF SIGNIFICANCE | 178 |
| 3.21.1 | Environmental Impact Analysis | 178 |

| | | |
|------------|---|------------|
| 4.0 | MITIGATION MONITORING AND REPORTING PROGRAM | 180 |
| 5.0 | PREPARERS | 193 |
| 5.1 | CALIFORNIA STATE PARKS DEPARTMENT OF PARKS AND RECREATION | 193 |
| 5.2 | THE NATURE CONSERVANCY | 193 |
| 5.3 | STANTEC CONSULTING SERVICES INC..... | 193 |
| 6.0 | REFERENCES..... | 195 |

LIST OF TABLES

| | | |
|----------|---|-----|
| Table 1 | Agency Permits and Environmental Review Requirements | 50 |
| Table 2 | Construction Phases and Approximate Durations | 61 |
| Table 3 | Attainment Status of South Coast Air Basin | 68 |
| Table 4 | SCAQMD Air Quality Significance Thresholds (Mass Daily Thresholds)..... | 70 |
| Table 5 | Project Construction Emissions in Comparison to SCAQMD Significance Criteria | 71 |
| Table 6 | Project Operation Emissions in Comparison to SCAQMD Significance Criteria..... | 71 |
| Table 7 | Vegetation Communities and Land Cover Types Occurring within the Biological Study Area..... | 76 |
| Table 8 | Plant Species Observed in the Biological Study Area..... | 78 |
| Table 9 | Wildlife Species Observed in the BSA..... | 82 |
| Table 10 | Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area..... | 86 |
| Table 11 | Known and Potential Occurrences of Special Status Plant Taxa within the Biological Study Area..... | 106 |
| Table 12 | Impacts to Vegetation Communities and Land Cover Types Occurring within the Proposed Project Area..... | 120 |
| Table 13 | Total Estimated Project GHG Emissions | 140 |
| Table 14 | Definitions of Acoustical Terms | 156 |
| Table 15 | Typical Sound Levels Measure in the Environment | 157 |
| Table 16 | Construction Phase Vehicle Trips..... | 168 |
| Table 17 | Operation Phase Vehicle Trips..... | 168 |

LIST OF FIGURES

| | | |
|----------|--|----|
| Figure 1 | Project Location and Drainage Area..... | 53 |
| Figure 2 | Process Flow Diagram from Existing Project Schematic | 56 |
| Figure 3 | Site Layout Plan..... | 57 |

LIST OF APPENDICES

| | | |
|------------|---|-----|
| APPENDIX A | CALEEMOD OUTPUT | A.1 |
| APPENDIX B | BIOLOGICAL RESOURCES TECHNICAL REPORT | B.1 |
| APPENDIX C | CULTURAL RESOURCES SURVEY REPORT | C.1 |
| APPENDIX D | PALEONTOLOGICAL RESOURCE ASSESSMENT..... | D.1 |

| | |
|---|-----|
| APPENDIX E REMOVAL ACTION WORK PLAN..... | E.1 |
| APPENDIX F CONSTRUCTION NOISE WORKSHEET | F.1 |

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 |
| CDPR | California Department of Parks and Recreation |
| CESA | California Endangered Species Act |
| CFS | Cubic feet per second |
| CNDDDB | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| | |
|------------------|--|
| PM ₁₀ | Particulate Matter 10 microns |
| PMMP | Paleontological Monitoring and Mitigation Plan |
| RAW | Removal Action Workplan |
| RWQCB | Regional Water Quality Control Board |
| SAA | Streambed Alteration Agreement |
| 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 Department of Parks and Recreation, 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 (CDPR) at the northernmost end of the former Southern Pacific (SPRR) Taylor Yard in the City of Los Angeles. The 17.3-acre CDPR 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 RESPONSE TO COMMENTS

During the public review period, comments were received on the Draft IS/MND from two public agencies and one non-profit organization. Following is a list of the persons, firms, or agencies that submitted comments on the IS/MND during the public review period:

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

A. Miya Edmonson, California Department of Transportation, District 7, letter dated June 2, 2023.

B. Erinn Wilson-Olgin, Environmental Program Manager I, South Coast Region, California Department of Fish and Wildlife, letter dated June 8, 2023.

C. Annelisa Ehret Moe, Water Quality Scientist, Heal the Bay, letter dated June 8, 2023.

Additionally, the following comments were received by DTSC during public review period of the Project's Removal Action Workplan:

D. James Kiehl, email.

E. Alejandro Palomino, email.

F. Diamanda Villareal, email.

G. Alejandro Palomino, email.

Although and the State CEQA Guidelines do not require a Lead Agency to prepare written responses to comments received on an IS/MND, CDPR has elected to prepare the following responses with the intent of conducting a comprehensive and meaningful evaluation of the proposed Project. Each comment letter is bracketed and coded, and correlates to the letter assigned to each comment as identified in the list above. The Final IS/MND shows updates from the Draft IS/MND with underlined text (additions) and strikethrough text (deletions).

DEPARTMENT OF TRANSPORTATION

DISTRICT 7

100 S. MAIN STREET, MS 16

LOS ANGELES, CA 90012

PHONE (213) 505-5003

FAX (213) 897-1337

TTY 711

www.dot.ca.gov

*Making Conservation
a California Way of Life*

June 2, 2023

Luke Serna
California Department of Parks and Recreation
South Service Center
2797 Truxtun Road
San Diego, CA 92108

RE: Bowtie Wetland Demonstration Project
Mitigated Negative Declaration (MND)
SCH # 2023040639
Vic. LA-002 /PM: 15.758
GTS # 07-LA-2023-04217

Dear Luke Serna:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced MND. The proposed project consists of enhancing habitat, improving water quality, and increasing public access to open space and the LA River. Dry weather and some wet weather flows will be diverted from the storm drain, treated through a filtration system, and pumped into a wetland where there would be additional water quality improvements. 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 public use. The California Department of Parks and Recreation, South Service Center is the Lead Agency under the California Environmental Quality Act (CEQA).

A1

The project site is approximately five hundred feet from State Route 2 (SR-2). After reviewing the MND, Caltrans has the following comments:

1. Construction activities associated with the proposed underground replacement cable installation would increase daily vehicle trips by an amount substantially lower than the 250 trips screening level adopted by the City of Los Angeles. Additionally, no significant impact is expected to vehicle miles travelled (VMT) levels. Therefore, pursuant to CEQA requirements, the impact during this project duration is expected to be none to minimal.
2. Temporary vehicle trips would be necessary for the construction of the Project. However, 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

A2

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 regarding potential hazards to a geometric design feature or through incompatible vehicular use. Therefore, the impact during project construction would be none to minimal.

3. During the project construction, existing access is also sufficient to accommodate emergency vehicle/personnel access to the project site. Potential impacts are expected to be less than significant. Caltrans has no further comments for this MND at this time.

As a reminder, any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles on State Highways will need a Caltrans transportation permit. Caltrans recommends that the Project limit construction traffic to off-peak periods to minimize the potential impact on State facilities. If construction traffic is expected to cause issues on any State facilities, please submit a construction traffic control plan detailing these issues for Caltrans' review.

If you have any questions, please feel free to contact Mark Garcia, the project coordinator, at Mark.Garcia@dot.ca.gov and refer to GTS # 07-LA-2023-04217.

Sincerely,

Miya Edmonson

MIYA EDMONSON
LDR/CEQA Branch Chief

cc: State Clearinghouse



STATE OF CALIFORNIA • NATURAL RESOURCES AGENCY Gavin Newson, Governor
DEPARTMENT OF FISH AND WILDLIFE Charlton H. Bonham, Director

South Coast Region
3883 Ruffin Road | San Diego, CA 92123
wildlife.ca.gov



June 8, 2023

Luke Serna
California Department of Parks and Recreation
2797 Truxtun Road
San Diego, CA 92106
enviro@parks.ca.gov

Subject: Bowtie Parcel Demonstration Wetland Project, Mitigated Negative Declaration, SCH #2023040639, California Department of Parks and Recreation, Los Angeles County

Dear Mr. Serna,

The California Department of Fish and Wildlife (CDFW) has reviewed the Mitigated Negative Declaration (MND) from the California Department of Parks and Recreation (CDPR) for the Bowtie Parcel Demonstration Wetland Project (Project). CDFW appreciates the opportunity to provide comments regarding aspects of the Project that could affect fish and wildlife resources and be subject to CDFW's regulatory authority under the Fish and Game Code.

CDFW's Role

B1

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & G. Code, §§ 711.7, subdivision (a) & 1802; Pub. Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect State fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 2 of 15

need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 *et seq.*). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & G. Code, § 1900 *et seq.*), CDFW recommends the Project Applicant obtain appropriate authorization under the Fish and Game Code.

Project Description and Summary

Objective: The Project proposes to enhance habitat, improve water quality, and increase public access to open space and the Los Angeles (LA) River at the Bowtie parcel. The Project would redevelop and restore the northeastern section of the Bowtie parcel, approximately 3.2 acres, currently consisting of bare earth and some concrete debris to demonstration wetlands. The new habitat would include upland, riparian, and wetland habitat areas. Dry weather and some wet weather flows will be diverted from a storm drain, treated through a filtration system, and pumped into a wetland where there would be additional water quality improvements. 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 public use.

Location: The Project is located in the City of Los Angeles, latitude 34°06'34.4"N and longitude 118°14'46.2"W, at Assessor's Parcel Number 5442-02-914. The Project site is bounded by the LA River to the southwest, Kerr Street to the north, and the Union Pacific railroad to the east.

Comments and Recommendations

Based on our review of the Project's CEQA document, CDFW offers the comments and recommendations below to assist CDPR in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. CDFW recommends the measures or revisions below be included in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring, and reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097).

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 3 of 15

Specific Comments

Comment #1: Impacts on Least Bell's Vireo (*Vireo bellii pusillus*)

Issue: The Project may impact least Bell's vireo (*Vireo bellii pusillus*), an Endangered Species Act (ESA) and CESA-listed species.

Specific impacts: The Project occurring during the least Bell's vireo nesting season could adversely affect breeding behavior of least Bell's vireo. Elevated noise and ground disturbance could result in least Bell's vireo abandoning nesting territory. In addition, elevated noise could result in the incidental loss of nests, fertile eggs, or nestlings.

Why impacts would occur: A review of the California Natural Diversity Database (CNDDDB) (CDFW 2023a) and E-bird (E-bird 2023) shows that least Bell's vireo has potential to occur around the Project site. CNDDDB shows suitable habitat in the form of low, dense thickets of willow and shrub occurring within two miles of the Project site. E-Bird shows occurrences adjacent to the Project site at the Rio de Los Angeles State Park within a mile of the Project site.

The MND does not provide a discussion of the Project's potential impacts on least Bell's vireo if Project activities occur during the nesting season. Project activities include excavation with heavy machinery such as graders, loaders, and excavators. These activities could result in elevated levels of noise. Substantial noise may adversely affect wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55-60 dB (Barber et al. 2009). The Project could adversely affect least Bell's vireo by disrupting foraging or breeding behavior or by causing adults to abandon nests. Disruptions to breeding behavior could include a temporary reduction breeding activity if least Bell's vireos avoid noisy areas. Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011). Project activities occurring during the breeding season of least Bell's vireo could result in the incidental loss of fertile eggs, nestlings, or nest abandonment. Least Bell's vireo could be forced from their territory into adjacent habitat that may be less suitable where they would be at risk of predation, starvation, or other injury.

The MND does not propose any specific mitigation measures for least Bell's vireo or protocol surveys for the species. Without any avoidance, minimization, or mitigation measures, the Project may result in significant impacts to least Bell's vireo.

B3

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 4 of 15

Evidence impact would be significant: Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9). In addition, take under the ESA is more broadly defined than take under CESA. Take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting.

CDFW considers impacts to CESA-listed species a significant direct and cumulative adverse effect without implementing appropriate avoidance and/or mitigation measures. The MND has yet to provide measures to mitigate for the Project's potential impact on least Bell's vireo. Accordingly, the Project may have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or U.S. Fish and Wildlife Service (USFWS).

Recommended Potentially Feasible Mitigation Measure(s):

Recommendation #1: Appropriate take authorization from CDFW under CESA may include a Restoration Management Permit (RMP), Incidental Take Permit (ITP), or a Consistency Determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (a), (b), and (c)]. Early consultation is encouraged, as significant modification to the project and mitigation measures may be required to obtain an ITP. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an RMP or ITP for the Project unless the Project's CEQA document addresses all the Project's impact on CESA endangered, threatened, and/or candidate species. The Project's CEQA document should also specify a mitigation monitoring and reporting program that will meet the requirements of an RMP or ITP. It is important that the take proposed to be authorized by CDFW's RMP or ITP be described in detail in the Project's CEQA document. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for an RMP or ITP. However, it is worth noting that mitigation for the Project's impact on a CESA endangered, threatened, and/or candidate species proposed in the Project's CEQA document may not necessarily satisfy mitigation required to obtain an ITP.

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 5 of 15

Mitigation Measure #1: CDPR should fully avoid impacts to least Bell's vireo by working outside of the least Bell's vireo nesting season for the duration of the Project. No ground-disturbing activities, including staging, as well as disturbances to native and nonnative vegetation should occur during the least Bell's vireo breeding season from March 15 through July 15 to avoid take of least Bell's vireo birds, nestlings, or their eggs.

Mitigation Measure #2: If construction activities must occur during the least Bell's vireo breeding season during the Project, one year prior to Project-related ground-disturbing activities and vegetation removal, CDPR should perform protocol surveys for least Bell's vireo where suitable habitat occurs within 500 feet of the Project site. CDPR should also establish and map the territory boundaries of least Bell's vireo within 500 feet of the Project direct footprint. Surveys should adhere to the USFWS 2001 [Least Bell's Vireo Survey Guidelines](#) (USFWS 2001). Per protocol guidelines, a final survey report (including negative findings) should be provided to USFWS and CDFW within 45 calendar days following the completion of the survey effort.

Mitigation Measure #3: If least Bell's vireo is present, CDPR should prepare an Avoidance Plan in coordination with USFWS and CDFW. The Avoidance Plan should include territory boundaries, noise level monitoring and restrictions during the breeding season, surveys by a qualified biologist, and Project construction lighting requirements. The Avoidance Plan should include Best Management Practices for Project lighting consistent with National Park Service lighting guidance – [Outdoor Lighting in National Parks: Lessons Learned and Best Practices](#). An Avoidance Plan should be prepared prior to any ground-disturbing activities and vegetation removal.

Mitigation Measure #4: If least Bell's vireo is not present, CDPR should commence work, and qualified biologists should survey weekly for least Bell's vireo, so as to be aware of use of nearby or adjacent habitat. If least Bell's vireo is found to have come near to the Project site, CDPR should stop work and consult with USFWS and CDFW. Protocol surveys should be conducted each year prior to implementation to ensure no least Bell's vireo presence.

Mitigation Measure #5: If impacts to least Bell's vireo cannot be avoided, CDPR should consult CDFW and USFWS to obtain take authorization. Appropriate take authorization should be obtained from CDFW and USFWS prior to any ground-disturbing activities and vegetation removal.

Comment #2: Impacts on Streams

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 6 of 15

Issue: The Project may impact streams.

Specific impacts: The Project may impact streams during grading and earthwork. In addition, the Project may alter the conveyance of runoff and sheet flow by installing new paved areas and permanent structures to capture runoff.

Why impacts would occur: According to page 114 in the section 3.10 Hydrology and Water Quality, "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...". The Project could impact streams temporarily during Project construction and permanently after the Project is completed.

Temporary impacts on streams could occur during Project construction. The Project would include substantial grading and balancing of fill on site. This could result in soil erosion and earth movement. As a result, the Project could deposit materials such as sediment and fine particles into a stream. Therefore, the Project could impact streams by depositing, permitting to pass into, or placing where it can pass into the waterway any substance or material deleterious to fish, plant life, mammals, or bird life, including, but not limited to gasoline and oil, as well as sediment.

Permanent impacts on streams could occur after the Project is completed by altering how runoff is captured and conveyed through the Project site. On page 115 the document specifies that "...stormwater that falls on the Project site would sheet flow into the wetland for treatment and use." The Project would install features that would modify how water is captured and conveyed across the Project site compared to baseline (i.e., no Project).

Evidence impact would be significant: CDFW exercises its regulatory authority as provided by Fish and Game Code section 1600 *et seq.* to conserve fish and wildlife resources which includes rivers, streams, or lakes and associated natural communities. Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake;
- Change the bed, channel, or bank of any river, stream, or lake;

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 7 of 15

- Use material from any river, stream, or lake; or,
- Deposit or dispose of material into any river, stream, or lake.

CDFW requires a Lake and Streambed Alteration (LSA) Agreement when a project activity may substantially adversely affect fish and wildlife resources.

The Project may impact streams both during Project construction and for the Project's lifetime. The MND does not provide measures to mitigate for potentially significant impacts on streams. Accordingly, the Project has a substantial adverse direct, indirect, and cumulative effect, either directly or through habitat modifications, on fish and wildlife resources, including rivers, streams, or lakes and associated natural communities identified by CDFW.

Recommended Potentially Feasible Mitigation Measure(s):

Recommendation #2: CDFW's issuance of an LSA Agreement for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document from the lead agency/project applicant for the Project. To minimize additional requirements by CDFW pursuant to Fish and Game Code section 1600 *et seq.* and/or under CEQA, a project's CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement. To compensate for any on- and off-site impacts to aquatic and riparian resources, additional mitigation conditioned in any LSA Agreement may include the following: erosion and pollution control measures; avoidance of resources; protective measures for downstream resources; on- and/or off-site habitat creation; enhancement or restoration; and/or protection and management of mitigation lands in perpetuity.

Mitigation Measure #6: CDPR should notify CDFW pursuant to Fish and Game Code 1602. Please visit CDFW's [Lake and Streambed Alteration Program](#) webpage for more information (CDFW 2023b).

Mitigation Measure #7: The Project Applicant's notification to CDFW should provide the following information at minimum:

- 1) A stream delineation in accordance with the USFWS wetland definition adopted by CDFW (Cowardin et al. 1979);
- 2) Linear feet and/or acreage of streams and associated natural communities that would be permanently and/or temporarily impacted by

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 8 of 15

the Project. Plant community names should be provided based on vegetation association and/or alliance per the [Manual of California Vegetation](#), second edition (Sawyer et al. 2008);

- 3) A discussion as to whether impacts on streams within the Project site would impact those streams immediately outside of the Project site where there is hydrologic connectivity. Potential impacts such as changes to drainage pattern, runoff, and sedimentation should be discussed; and
- 4) A hydrological evaluation of the 100-year storm event to provide information on how water and sediment is conveyed through the Project site. Additionally, the hydrological evaluation should assess a sufficient range of storm events (e.g., 100, 50, 25, 10, 5, and 2-year frequency storm events) to evaluate water and sediment transport under pre-Project and post-Project conditions.

Additional Recommendations

Recommendation #3: CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database (e.g., CNDDDB) which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Information on special status species should be submitted to the CNDDDB by completing and submitting [CNDDDB Field Survey Forms](#). Information on special status native plant populations and sensitive natural communities, the [Combined Rapid Assessment and Relevé Form](#) should be completed and submitted to CDFW's Vegetation Classification and Mapping Program (CDFW 2023c).

Recommendation #4: CDFW recommends CDPR revise update the Project's proposed Biological Resources Mitigation Measures and condition the environmental document to include mitigation measures recommended in this letter. CDFW provides comments to assist CDPR in developing mitigation measures that are specific, detailed (i.e., responsible party, timing, specific actions, location), enforceable through permit conditions, agreements, or other legally-binding instruments [CEQA Guidelines, § 15126.4(a)(2)], and clear for a measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (CEQA Guidelines, § 15097; Pub. Resources Code, § 21081.6). CDPR is welcome to coordinate with CDFW to further review and refine the Project's mitigation measures. Per Public Resources Code section 21081.6(a)(1), CDFW has provided CDPR with a summary of our suggested mitigation measures and recommendations in the form of an

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 9 of 15

attached Draft Mitigation and Monitoring Reporting Plan (MMRP; Attachment A).

Filing Fees

B7

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required for the underlying Project approval to be operative, vested, and final (Cal. Code Regs., tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

Conclusion

B8

We appreciate the opportunity to comment on the Project to assist the CDPR in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any response that the CDPR has to our comments and to receive notification of any forthcoming hearing date(s) for the Project [CEQA Guidelines, § 15073(e)]. If you have any questions or comments regarding this letter, please contact Christian Romberger, Senior Environmental Scientist (Specialist), at (562) 292-6365 or by email at christian.romberger@wildlife.ca.gov.

Sincerely,

DocuSigned by:

B6E58CFE24724F5...

Erinn Wilson-Olgin
Environmental Program Manager I

ec: CDFW

Victoria Tang – Seal Beach – Victoria.Tang@wildlife.ca.gov
Steve Gibson – Seal Beach – Steve.Gibson@wildlife.ca.gov
Ruby Kwan-Davis – Seal Beach – Ruby.Kwan-Davis@wildlife.ca.gov
Felicia Silva – Seal Beach – Felicia.Silva@wildlife.ca.gov
Julisa Portugal – Seal Beach – Julisa.Portugal@wildlife.ca.gov
Andrew Aiken – Seal Beach – Andrew.Aiken@wildlife.ca.gov
Cindy Hailey – San Diego – Cindy.Hailey@wildlife.ca.gov
CEQA Program Coordinator – Sacramento –
CEQACommentLetters@wildlife.ca.gov

Luke Serna
California Department of Parks and Recreation
June 8, 2023
Page 10 of 15

State Clearinghouse - state.clearinghouse@opr.ca.gov

References:

- Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. *Trends in Ecology and Evolution* 25:180–189.
- [CDFWa] California Department of Fish and Wildlife. 2022. California Natural Diversity Database (CNDDDB) Available from: <https://wildlife.ca.gov/Data/BIOS>
- [CDFWb] California Department of Fish and Wildlife. 2023. Lake and Streambed Alteration Program. Available from: <https://wildlife.ca.gov/Conservation/LSA>.
- [CDFWc] California Department of Fish and Wildlife. (2022). Submitting Data to the CNDDDB. Available from: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>
- Cowardin, L. M. 1979. Classification of wetlands and deepwater habitats of the United States. Fish and Wildlife Service, US Department of the Interior.
- [E-bird] E-Bird. 2023. Least Bell's Vireo Observations. Available from <https://ebird.org>
- Francis, C. D., C. P. Ortega, and A. Cruz. 2009. Noise Pollution Changes Avian Communities and Species Interactions. *Current Biology* 19, 16:1415-1419.
- Kight, C. R., and J. P. Swaddle. 2011. How and why environmental noise impacts animals: an integrative, mechanistic review. *Ecology Letters* 14: 1052-1061.
- Sawyer, J. O., T. Keeler-Wolf, and J. Evens. 2008 A manual of California vegetation, second edition. California Native Plant Society.

Attachment A: Draft Mitigation and Monitoring Reporting Plan

CDFW recommends the following language to be incorporated into the Project's environmental document.

| Biological Resources (BIO) | | | |
|---|--|-----------------------------------|---|
| Mitigation Measure (MM) or Recommendation (REC) | | Timing | Responsible Party |
| B9 REC-1-Discuss the Projects potential impact to least Bell's vireo | CDPR shall obtain appropriate take authorization from CDFW under CESA which may include a Restoration Management Permit (RMP), Incidental Take Permit (ITP), or a Consistency Determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (a), (b), and (c)]. Early consultation is encouraged, as significant modification to the project and mitigation measures may be required to obtain an ITP. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an RMP or ITP for the Project unless the Project's CEQA document addresses all the Project's impact on CESA endangered, threatened, and/or candidate species. The Project's CEQA document should also specify a mitigation monitoring and reporting program that will meet the requirements of an RMP or ITP. It is important that the take proposed to be authorized by CDFW's RMP or ITP be described in detail in the Project's CEQA document. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for an RMP or ITP. However, it is worth | Prior to finalizing CEQA document | California Department of Parks and Recreation |

| | | | |
|---|---|-----------------------------------|---|
| | noting that mitigation for the Project's impact on a CESA endangered, threatened, and/or candidate species proposed in the Project's CEQA document may not necessarily satisfy mitigation required to obtain an ITP. | | |
| REC-2-Fish and Game Code section 1602 | To minimize additional requirements by CDFW pursuant to Fish and Game Code section 1600 <i>et seq.</i> and/or under CEQA, the Project's CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement. | Prior to finalizing CEQA document | California Department of Parks and Recreation |
| REC-3-Submitting Data for Sensitive and Special Status Species and Natural Communities | CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database [i.e., CNDDDB] which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Information on special status species should be submitted to the CNDDDB by completing and submitting CNDDDB Field Survey Forms. Information on special status native plant populations and sensitive natural communities, the Combined Rapid Assessment and Relevé Form should be completed and submitted to CDFW's Vegetation Classification and Mapping Program. | Prior to finalizing CEQA document | California Department of Parks and Recreation |
| REC-4-Mitigation and Monitoring Reporting Plan | CDPR shall condition the environmental document to include mitigation measures recommended in CDFW's comment letter | Prior to finalizing CEQA document | California Department of Parks and Recreation |
| MM-BIO-1-Impacts on | CDPR shall fully avoid impacts to least Bell's vireo by working outside of the least Bell's vireo nesting season | Prior to any Project- | California Department of |

| | | | |
|---|---|---|---|
| least Bell's Vireo – Avoid Impacts | for the duration of the Project. No ground-disturbing activities, including staging, as well as disturbances to native and nonnative vegetation should occur during the least Bell's vireo breeding season from March 15 through September 15 to avoid take of least Bell's vireo birds, nestlings, or their eggs. | related ground disturbing activities | Parks and Recreation |
| MM-BIO-2- Impacts on least Bell's vireo – Protocol Surveys | If construction activities must occur during the least Bell's vireo breeding season during the Project, one year prior to Project-related ground-disturbing activities and vegetation removal, CDPR shall perform protocol surveys for least Bell's vireo where suitable habitat occurs within 500 feet of the Project site. CDPR should also establish and map the territory boundaries of least Bell's vireo within 500 feet of the Project direct footprint. Surveys should adhere to the USFWS 2001 Least Bell's Vireo Survey Guidelines (USFWS 2001). Per protocol guidelines, a final survey report (including negative findings) should be provided to USFWS and CDFW within 45 calendar days following the completion of the survey effort. | Prior to any Project-related ground disturbing activities | California Department of Parks and Recreation |
| MM-BIO-3- Impacts on least Bell's vireo – Avoidance Plan | If least Bell's vireo is present, CDPR shall prepare an Avoidance Plan in coordination with USFWS and CDFW. The Avoidance Plan should include territory boundaries, noise level monitoring and restrictions during the breeding season, surveys by a qualified biologist, and Project construction lighting requirements. The Avoidance Plan should include Best Management Practices for Project lighting consistent with National Park Service lighting guidance – Outdoor Lighting in National Parks: Lessons Learned and Best Practices. An Avoidance Plan should be prepared prior to any | Prior to any Project-related ground disturbing activities | California Department of Parks and Recreation |

| | | | |
|---|---|---|---|
| | ground-disturbing activities and vegetation removal. | | |
| MM-BIO-4- Impacts to least Bell's vireo – Avoidance plan | If least Bell's vireo is not present, CDPR should commence work, and qualified biologists should survey weekly for least Bell's vireo, so as to be aware of use of nearby or adjacent habitat. If least Bell's vireo is found to have come near to the project site, CDPR shall stop work and consult with USFWS and CDFW. Protocol Surveys shall be conducted each year prior to implementation to ensure no least Bell's vireo presence. | Prior to any Project-related ground disturbing activities | California Department of Parks and Recreation |
| MM-BIO-5- Impacts on least Bell's vireo – Take Authorization | If impacts to least Bell's vireo cannot be avoided, CDPR shall consult CDFW and USFWS to obtain take authorization. Appropriate take authorization should be obtained from CDFW and USFWS prior to any ground-disturbing activities and vegetation removal. | Prior to any Project-related ground disturbing activities | California Department of Parks and Recreation |
| MM-BIO-6-Fish and Game Code Section 1602 – Notify CDFW | CDPR shall notify CDFW pursuant to Fish and Game Code 1602. Please visit CDFW's Lake and Streambed Alteration Program webpage for more information (CDFW 2023). | Prior to finalizing CEQA document | California Department of Parks and Recreation |
| MM-BIO-7-Fish and Game Code Section 1602 – Notify CDFW | <p>The Project Applicant's notification to CDFW shall provide the following information at minimum:</p> <ol style="list-style-type: none"> 1) A stream delineation in accordance with the USFWS wetland definition adopted by CDFW (Cowardin et al. 1979); 2) Linear feet and/or acreage of streams and associated natural communities that would be permanently and/or temporarily impacted by the Project. Plant community names should be provided based on vegetation association and/or alliance per | Prior to finalizing CEQA document | California Department of Parks and Recreation |

| | | | |
|--|---|--|--|
| | <p>the Manual of California Vegetation, second edition (Sawyer et al. 2009);</p> <p>3) A discussion as to whether impacts on streams within the Project site would impact those streams immediately outside of the Project site where there is hydrologic connectivity. Potential impacts such as changes to drainage pattern, runoff, and sedimentation should be discussed; and</p> <p>4) A hydrological evaluation of the 100-year storm event to provide information on how water and sediment is conveyed through the Project site. Additionally, the hydrological evaluation should assess a sufficient range of storm events (e.g., 100, 50, 25, 10, 5, and 2-year frequency storm events) to evaluate water and sediment transport under pre-Project and post-Project conditions.</p> | | |
|--|---|--|--|



Heal the Bay

1444 9th Street
Santa Monica, CA 90401

ph. 310-451-1500
fax 310-4961902

info@healthebay.org
www.healthebay.org

June 8, 2023

ATTN: Luke Serna: Bowtie Wetland Demo
California State Parks
Southern Service Center
2797 Truxtun Road
San Diego, CA 92106

Sent via email to: enviro@parks.ca.gov

**RE: INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE PROPOSED BOWTIE PARCEL
DEMONSTRATION WETLAND PROJECT**

To Luke Serna:

Heal the Bay is a non-profit environmental organization with over 35 years of experience and 20,000 members dedicated to making the coastal waters and watersheds of Greater Los Angeles safe, healthy, and clean. We use science, education, community action, and advocacy to fulfill our mission. We would first like to recognize that we are on unceded Indigenous land. The scope of our work takes place across the lands of coastal Indigenous Peoples and Native Nations of the Tongva, Chumash, Fernandeño Tataviam Band of Mission Indians, and Kizh Nation tribes.¹ We would like to acknowledge and pay our respects to elders past, present, and emerging.

On behalf of Heal the Bay, we respectfully submit the following comments on the Bowtie Parcel Demonstration Wetland Project (Project) Initial Study/Mitigated Negative Declaration (IS/MND). The expected benefits of the Project are numerous, including improved biological resources, increased carbon sequestration, heat island reduction, remediation of hazardous materials, improved water quality, and access to recreation within an overburdened community. Additional amenities include pedestrian resting stations, observation areas, signage, waste collection/management, irrigation, habitat features, paving materials, hardscape design, drainage, access control, graffiti management, and lighting. Given the myriad benefits, Heal the Bay supports the Project, and we have identified a few opportunities to further minimize and/or mitigate potential negative impacts. If the following comments are addressed, we believe that the IS/MND will be sufficient to comply with environmental review requirements under the California Environmental Quality Act (CEQA).

- We suggest that another biological resources survey be conducted, and any major site disturbance should be scheduled to start outside of bird nesting season.
- We request additional analysis to ensure appropriate flow sizing and soil excavation, as well as additional information on the proposed high-density polyethylene liner.
- The Project should address potential displacement through development of a formal and just relocation plan for the unhoused population in and along the Project site, and through the use of the "Greening in Place" plan to minimize potential for gentrification.
- Additional assessment should be conducted to ensure crew safety and minimize consumption of energy and production of Greenhouse Gases (GHGs) during Project construction.

¹ Native Lands Digital. 2023. Available at: <https://native-land.ca/>.



1444 9th Street
Santa Monica, CA 90401

ph. 310-451-1500
fax 310-4961902

info@healthebay.org
www.healthebay.org

Heal the Bay

- State Parks should strive to improve accessibility and transparency whenever feasible.

Another biological resources survey should be conducted, and any major site disturbance should be scheduled to start outside of bird nesting season.

This Project will provide multiple biological resources benefits including the creation of new habitat, removal of contaminants and invasive species, and increase of biodiversity potential. In the process of creating these new benefits, it is critical that we also protect existing biological resources to the extent feasible. The Biological Survey for the Project, conducted once in May of 2022, found 38 species of native and non-native plants, including the sensitive vegetation community of Gooding's willow - red willow riparian woodland and forest, and 43 species of animals (mostly birds). However, the single Biological Survey conducted does not fully capture different seasons, or rare and nocturnal species. We request that another survey be conducted before any work is done, to include a focused insect survey, which has not yet been performed. In addition, no critical habitat was identified, but some special status species have potential to forage or nest in the area. BIO1-BIO3 mitigation measures are therefore appropriate, and we further request, as part of the BIO-4 mitigation measure for nesting birds, that major site disturbance should be scheduled (or started) outside of bird nesting season to the extent feasible.

We request additional analysis to ensure appropriate flow sizing and soil excavation, as well as additional information on the proposed high-density polyethylene liner.

Water quality remediation under the Project will address bacteria, copper, and zinc contamination, supporting compliance with the Los Angeles Regional Municipal Separate Storm Sewer System (MS4) Permit, and a Stormwater Pollution Prevention Plan (SWPPP) will be in place to control pollution discharges during construction. Establishing and maintaining native habitat will reduce the potential for soil erosion compared to existing site conditions, and groundwater, currently contaminated with PCE and TCE, is not expected to be encountered during construction or used for the Project. Overall, this project will improve surface water quality and remove soil contamination.

The project targets dry-weather MS4 discharges. We request a comparison to normal dry-weather flows for this drainage area to ensure appropriate flow sizing. We also request an assessment of the maximum wet weather flows for this drainage area to identify how much wet weather flow could be captured by the Project. Given that no additional discharge permit will be required for this Project, aside from the Construction General Permit during project construction, it appears that treated water, as well as any stormwater overflow, will be discharged to the LA River through the same stormdrain from which the water will be diverted. We request that State Parks confirm this, or else disclose if there will be an alternative discharge location.

Given that Taylor Yard is within the San Fernando Valley Superfund Site Area 4 boundary, we have remaining concerns that surface soil contamination not removed during construction may be mobilized. We request that additional documentation be provided to verify that removing two feet of topsoil is sufficient to remove contamination on site. We understand that a liner will limit percolation, and thus limit potential mobilization, simultaneously improving surface water retention. We request additional information on the proposed high-density polyethylene liner, as well as full disclosure, if used, of any potential for this liner to break down, which may leach chemicals or produce microplastics.



Heal the Bay

1444 9th Street
Santa Monica, CA 90401

ph. 310-451-1500
fax 310-4961902

info@healthebay.org
www.healthebay.org

C4

The Project should address potential displacement through development of a formal and just relocation plan for the unhoused population in and along the Project site, and through the use of the “Greening in Place” plan to minimize potential for gentrification.

CEQA is an incredibly important public process, but is currently insufficient to address gentrification associated with increased access to open space. Frogtown, a community located directly across the river from the Project location, has experienced significant gentrification over the last decade, and this public amenity has the potential to accelerate it. We request that this project follow the “Greening in Place” plan.² In addition, the Initial Study does not acknowledge the unhoused population in the area, and how they might be displaced by the Project. We request a formal and just relocation plan for folks who live in and along the Project site.

C5

Additional assessment should be conducted to ensure crew safety, and to minimize consumption of energy and production of Greenhouse Gases (GHGs) during Project construction.

This project supports LA City’s Green New Deal (Sustainability pLAn 2019) by creating beneficial use of stormwater and wetland ecosystems that would end up sequestering GHGs rather than emitting them. The main consumption of energy and production of GHG emissions will occur during construction, with the use of diesel and gasoline tools. We request consideration of electric construction equipment and other zero-emission alternative tools.

Additionally, although the project site is not technically within a zone identified as a “high wildfire hazard area,” Sepulveda Basin has had multiple wildfires in recent years, so the potential for this hazard should still be addressed. To ensure crew safety during Project construction, we request an evacuation plan be developed for the Project.

C6

State Parks should strive to improve accessibility and transparency whenever feasible.

State Parks should use clear communication to ensure long-term project success.

We appreciate the efforts made to increase accessibility to this Project and the public review process, such as providing documents and announcements in both Spanish and English. We encourage continued communication accessibility of this kind. In addition, considering the potential Tribal Resources at the location, as well as the proposed use of native vegetation, we are encouraged that there has been consultation with local Indigenous Nations, and recommend continued consultation throughout Project development, construction, and operation.

Although noise impacts are minor and not concerning for health reasons, we request transparent communication with local residents so they are aware of any activity that may create noise in their neighborhood. This includes construction activity Monday through Friday between 7 am and 9 pm, and on Saturdays between 8 am and 6 pm for the duration of Project construction, as well as operations and maintenance activities such as the use of an enclosed pump, minor maintenance with hand tools and small equipment, voices from public use, and a vacuum truck used once per month to remove settled solids from the treatment system.

² Audubon Center at Debs Park. 2020. *Greening in Place*. Available at: <https://www.greeninginplace.com/>



Heal the Bay

1444 9th Street
Santa Monica, CA 90401

ph. 310-451-1500
fax 310-4961902

info@healthebay.org
www.healthebay.org

There should be a clear operations and maintenance plan in place for the Project.

The IS/MND does not include an Operations and Maintenance (O&M) plan, only stating, "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." We request a full O&M Plan be provided.

Amenities should be added to the Project plan to improve accessibility and safety.

Amenities such as seating and pedestrian resting stations will help to improve accessibility to this improved open space. We also request addition of water fountains and restrooms to increase access to drinking water and sanitation.

Proper signage is also an important amenity for a public space. The IS/MND does indicate that signage will be used at this location, but does not fully explain what the signage will include. We request that the signage incorporate Indigenous perspectives, plant species used on site with Indigenous cultural significance, etc. We highly encourage consultation with Indigenous Nations to create the signage content. Safety information should also be provided through signage including an evacuation plan in the event of a wildfire or liquefaction event.

.....

Thank you for this opportunity to comment on the Initial Study/Mitigated Negative Declaration for the Bowtie Parcel Demonstration Wetland Project. Once again, given the myriad benefits, Heal the Bay supports this Project, and we believe that the IS/MND will be sufficient to comply with CEQA environmental review requirements if the preceding comments are addressed. If you have any questions concerning this comment letter, please contact Annelisa Moe via e-mail at amoe@healthebay.org, or by telephone at (310) 451-1500 X115.

Sincerely,

Annelisa Ehret Moe
Water Quality Scientist
Heal the Bay

Name: James Kiehl

Public Comment and Questions from James Kiehl, 25-year Resident of Glassell Park and 30-year + member of the Nature Conservancy.

D1 I have been an active member of the Glassell Park community for over 20 years involved with the Glassell Park Improvement Association. I have reviewed the Bowtie project's Removal Action Work Plan (RAW) documents and in general find the plan to be well thought out and see how it will improve infiltration of storm drain water into our local water table and improve the quality of this water and the water that goes on to the LA River. My questions deal with the ongoing water filtration costs (operating costs) after the system is built. I also question how trash and large items will be removed from the storm drains, both the Los Angeles city system and the County of LA Flood Control system. From years of helping with Friends of the LA River (FOLAR) clean-ups I know there is plenty of trash that goes from the storm drain system to the river. During one clean-up we recovered a full-sized Costco shopping cart that I personally took back to Costco. So sadly, trash is a real issue here. Can you please address these issues.

Name: Alejandro Palomino

Hello,

Following are my comments on the MND plan on Bowtie parcel:

1- A full EIR shall be done on the same whole parcel at once.

2- the whole parcel shall be under the remediation plan and not doing "piece meal" on the parcel that would put the public's on health, safety and welfare in jeopardy.

3- a full bird, raptors, bat, and Least Bell's Vireo survey following the US Department of the Interior and CDFW on the whole parcel before any work is performed.

4- A series of workshops should be done to explain tax taxpayers the plan or plans so we can understand what's there, this plan was about 600 pages with lots of technical wording near to impossible to be digested by regular folks like myself, before any work is performed. In the past longtime residents living adjacent to Taylor Yard G1 and G2 as well as visitors were exposed to toxic and carcinogenic pollutants when trucks and semi trucks, machinery, etc drove easily above the 5 miles per hour supposedly not to be exceeded, creating huge clouds of toxicity dust, water tanks were supposed to spray water during the whole process of digging and transportation to suppress the huge clouds of dust created by all the activities: suppression did happen but partially only and mostly when people were able to direct our concerns to the

appropriate channels responsible. This and a lot of other similar issues were experienced at this parcel and other adjacent parcels along the LA River Flood Control Channel during, before and after the projects all under the oversight from DTSC who was also in charge of the remediation plans for those projects which has made us not to trust completely to the public agencies supposedly to guarantee the health, safety and welfare of residents and taxpayers.

Sincerely,

Alejandro Palomino

Frogtown Residents Opposing Gentrification | FROG

ELysian Valley Vecinos Unidos

Alliance of River Communities | ARC

Name: Diamanda Villareal

Estoy de acuerdo de que se haga la limpieza del suelo contaminado. Esto va ayudar a que las nuevas plantas puedan crecer. Que pongan areas para que los jovenes esten con las patinetas o con las bicicletas. Tambien si pueden poner una area para las personas de la tercera edad para que hagan ejercicio. Una area para los perritos estaria bien. Una idea es que pongan puestos de venta de nieve, elotes, papitas, o perros calientes. Un puesto de flores, raspados, y paletas, para que la gente que trabajen en los puestos mantengan la area limpia. Si se puede poner un gimnasio, tambien es buena idea.

I agree that the contaminated soil should be cleaned up. This will help the new plants to grow. Establish areas for young people to be with skateboards or bicycles. Also, if they can put an area for the elderly to exercise. An area for the dogs would be nice. One idea is to put stalls selling ice cream, corn, chips, or hot dogs. A flower stall, snow cones, and popsicles, so that the people who work in the stalls keep the area clean. If you can put a gym, it is also a good idea.

Name: Alejandro Palomino

1. Parks are good. I don't oppose to the creation of more parks but we have other main issues Los Angeles or Angelinos are facing, such as water and homelessness. Unfortunately, homelessness, a lot of resources have been spent on it and they haven't produced any good results. But in terms of water, who, that the question I'm asking to 100 Acres Partnership, who decides that the residents of the communities adjacent to the site, we wanted a park.

2. We already have many parks around here, so taking into consideration the needs of Angelinos right now and main issues, I think a water reservoir should be more better than a park, like for example, Silver Lake water reservoir. Something like that, where we can secure some water but also can be open for a recreational area all around to the public. I believe that the agencies involved are not really focusing on the needs but the want of some individuals or entities.

3. So, I believe this site could be used in a lot better way than just a park because it's going to be another amenity for the newcomers that, and it will keep trickling the gentrification of our communities, unfortunately.

4. And then the process that has been taken it's a little bit cloudy. We don't, at the meetings, we are somehow prevented from making comments just because don't align with the plans of the agenda for this project. So, most of the people in our community have been ignored and that's bad because we are going to either affected in a good or bad way for the creation of all these projects, because we haven't been included like all included in the decision of what we want all these areas to be.

5. And also the pollution at this site is extremely high.

6. Unfortunately, in the past, people were allowed to enter all these sites with no restrictions. It is just yesterday there were people playing at the Bowtie. And I reported I don't know how many times to DTSC, to 100 acres Partnership, California State Parks that there's no --there is fully access to--open access to all these sites, so that shows the lack of interest to protect the health, safety and welfare of community members and public in general, so how can we trust all these agencies when they're failing to provide us with the very minimum of safety and health and how do you say, needs to all these parks.

So, thank you for your time and that's my comment. I will submit a different one via email. Thank you.

A. Responses to Comments from Miya Edmonson, California Department of Transportation, District 7, letter dated June 2, 2023

A1. CDPR concurs with California Department of Transportation's determination that no significant impact to vehicle miles travelled levels would occur.

A2. CDPR concurs with California Department of Transportation's determination that no impact would occur regarding potential hazards to a geometric design feature or through incompatible vehicular use.

A3. CDPR concurs with California Department of Transportation's determination that existing access is sufficient to accommodate emergency vehicle/personnel access and potential impacts are expected to be less than significant.

A4. CDPR shall obtain a California Department of Transportation permit should the Project require use of oversized-transport vehicles. CDPR shall limit construction traffic to off-peak period to the degree feasible. Construction traffic is not expected to cause issues on any State facilities and a construction traffic control plan detailing these issues for California Department of Transportation review is not anticipated to be needed.

B. Responses to Comments from Erinn Wilson-Olgin, Environmental Program Manager I, South Coast Region, California Department of Fish and Wildlife, letter dated June 8, 2023

B1. CDPR appreciates California Department of Fish and Wildlife providing a summary of CDFW's role as a Trustee and Responsible Agency related to CEQA, California Fish and Game Code, and California Endangered Species Act. The project description, summary, and location included in the comment are accurate.

B2. CDPR has incorporated additional measures into the Project's Mitigation Monitoring and Reporting Program to reduce potentially significant direct and indirect impacts to biological resources. These potential impacts and mitigation measures are included in Sections 3.4 (Biological Resources), 3.13 (Noise), and 4.0 (Mitigation Monitoring and Reporting Program) of the Final IS/MND and are discussed below in Responses B3 through B9 below.

B3. Sections 3.4.2 (Biological Resources), 3.13.2 (Noise), and 4.0 (Mitigation Monitoring and Reporting Program) have been updated to analyze and mitigate potential construction noise impacts to least Bell's vireo or other special-status species that have the potential to occur in suitable habitat in the Los Angeles River bed adjacent to the Project site. As discussed in the Final IS/MND, Mitigation Measure BIO-4 has been updated and shall be implemented to reduce potentially significant noise impacts to least Bell's vireo or other special-status species to less than significant.

Mitigation Measure BIO-4 (Nesting Bird Surveys and Avoidance Measures) specifically requires the following:

To avoid impacts to or take of both common and/or special-status birds (e.g., least Bell's vireo), nestlings, or their eggs, and to the extent feasible, no ground-disturbing activities, including staging, as well as disturbances to native and nonnative vegetation should not occur during the recognized breeding season

from Feb 15 through September 15 (January 1 through August 15 for raptors) to avoid impacts to or take of common and/or special-status birds, nestlings, or their eggs.

If construction can't avoid the nesting season, a temporary sound attenuation barrier shall be placed along the western limits of construction to reduce potential construction noise levels in the bed of the adjacent Los Angeles River to below the 60 dBA level used by USFWS as a practical threshold above which substantial impacts to the least Bell's vireo may occur.

Prior to initial ground disturbance or vegetation removal (including construction of the sound attenuation barrier), the Applicant shall provide evidence to CDPR 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 notify the 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, location of nest in relation to the sound attenuation barrier, 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; nest locations within the areas protected by the sound attenuation barrier will only require notification to the USFWS and CDFW. 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.

Mitigation Measure BIO-1 additionally requires wildlife pre-construction clearance surveys and construction monitoring by a qualified biologist with experience with special-status species known to occur in the region, including least Bell's vireo, during all ground disturbance and vegetation removal activities.

B4. CDPR understands CDFW recommends submitting a notification for a Streambed Alteration Agreement (SAA). CDPR conducted a supplemental review of the Project in relation to CDFW's SAA jurisdiction and notes the following:

- The entirety of the Project would be constructed and operated outside Waters of the State and associated riparian habitat;
- While the Project would connect to an existing stormwater drainage pipe with a terminus at the Los Angeles River potentially within CDFW's SAA jurisdiction, the connection to the Project would occur within the storm drain outside CDFW's SAA jurisdiction;
- The Project would not substantially alter the volume of stormwater flow entering the Los Angeles River (only a small overall volume is used for wetland and native habitat restoration and irrigation).
- The Project would result in water quality improvements to an existing Los Angeles River stormwater discharge by pre-treating 100% of stormwater during low-flow conditions and 5-10% of stormwater during high-flow conditions.
- The improvements in stormwater discharge quality will provide ecological benefits in the Los Angeles River.
- The Project involves and is purposed upon restoring wetland and native habitat.
- Water quality related requirements applicable to construction and operation of the Project are regulated pursuant to the Clean Water Act and Porter-Cologne Water Quality Control Act which are additionally protective of human and ecological health.
- The Project's consistency with applicable water quality standards and regulations are analyzed in Section 3.10 (Hydrology and Water Quality) which demonstrate the Project does not have the potential to result in a significant water quality impact.

CDPR is hopeful the above clarification demonstrates why the Project would not be subject to issuance of a CDFW SAA. Regardless, coordination with CDFW will continue to take place to determine the most appropriate route forward to ensure the protection of the LA River and associated biological resources.

B5. Observations of special-status species during construction of the Project, if any, will be submitted by CDPR to the California Natural Diversity Database.

B6. Please refer to responses to comments B1 through B5.

B7. CDPR will provide payment of CDFW CEQA filing fees in accordance with regulatory requirements.

B8. CDPR appreciated the opportunity to meet with CDFW on July 18, 2023 to discuss CDFW's comments on the IS/MND and will continue to notice CDFW in accordance with CEQA requirements.

B9. Please refer to responses to comments B1 through B8.

C. Responses to Comments from Annelisa Ehret Moe, Water Quality Scientist, Heal the Bay, letter dated June 8, 2023

C1. CDPR appreciates Heal the Bay comments on the IS/MND. Please refer to responses to comments C2 through C7.

C2. Numerous biological surveys have been conducted on and adjacent to the Project site as part of Project planning. Additional biological surveys are required by mitigation prior to Project construction. Surveys conducted to date have not identified threatened or endangered species on the Project site nor does the Project site occur within habitat with a high potential for sensitive insect species to occur. The Project will additionally result in rehabilitation of native habitat that would result in a net benefit to biological resources, including but not limited to insects. Please refer to Section 3.4 (Biological Resources) for additional details.

C3. The Project is designed to treat 100% of dry weather flows. Much of this water would stay onsite and be used for irrigation of plantings. Any remaining water would flow back into the existing storm drain and out into the river. The Project does not include a new storm drain into the river. The project would manage a small amount of wet weather flows and most water during large storm events would bypass the system and flow back through the existing storm drain which would remain in place.

Multiple site characterization efforts have occurred over time that demonstrate concentrations of constituents of concern occur within the top two feet of site soil. Assessment and remediation of these soils is being closely coordinated with and approved by the California Department of Toxic Substances Control.

While HDPE can degrade in sunlight, the HDPE lines used for the Project would be in a buried condition and not be subject to UV degradation. HDPE is utilized for water pipelines all across the United States and is not known to leaching chemicals into the water or groundwater. The liner would additionally limit percolation into underlying groundwater.

C4. TNC has implemented the following Greening in Place strategies regarding Community Engagement and Ownership and Design and Operations (with CDPR). As part of these efforts, TNC has incorporated the following:

- Don't ignore the issue or dismiss people's concerns because they don't align with your mission or are outside of your area of expertise;
- Do prioritize hiring people with local community knowledge/expertise/relationships;
- Advocate for public agencies to address issues proactively;
- Include in your budget funding to partner with other organizations with local expertise and ask for recommendations; and
- Partner with locals and organizations to develop culturally relevant programming and services.

During a site visit with SELAH Neighborhood Homeless Coalition, CDPR, TNC and a staff member from Councilmember Hernandez's office on April 4, 2023, attendees walked the site and noted that no unhoused community members are currently living on the site. There are people living near the site and in partnership with SELAH, TNC and CDPR plan to share information about remediation and construction on-site. SELAH

constantly does outreach to community members near the Project site to connect folks to housing services among other services in the area, in coordination with the Los Angeles Homeless Services Authority (LAHSA) whom CDPR and TNC have met with before.

City of Los Angeles Council District 1 and the Bureau of Engineering are partnering on a housing project for unhoused community members called Northeast New Beginnings on 499 N. San Fernando Road, LA CA 90031. TNC and CDPR are hopeful that people living near the Project site will be interested and welcomed into these housing facilities over the next few months.

TNC participates as part of the Los Angeles Regional Open Space and Affordable Housing Collaborative (LA ROSAH) collaborative to advance policies and strategies that prevent displacement in vulnerable communities related to urban greening investments and to create models for accessible, community-driven parks/open space and affordable housing joint development, including housing production and preservation.

The Taylor Yard Equity Strategy (TYES) aims at addressing gentrification and displacement issues for all of Taylor Yard. The 100 Acre Partnership is an effort of the City of Los Angeles, MRCA, and CDPR. Sarai participated in a strategy session earlier this year that brought together several agencies, organizations, and community organizations together.

The LA Regional Open Space and Affordable Housing (LA ROSAH) Collaborative was selected by the City of Los Angeles to facilitate a community-driven process to develop a community Taylor Yard Equity Strategy (TYES). TYES will undertake a vital community engagement process to uplift equitable community development priorities in light of the major public infrastructure investments around the Taylor Yard and LA River area, centering the most impacted and marginalized voices.

A TYES staff member will attend TNC community workshop on native plants to give announcements about upcoming opportunities to engage in TYES and TNC staff have met with TYES to discuss ways for TNC to further connect community members with TYES staff.

C5. A site safety plan, including an evacuation route, shall be developed prior to Project construction. Section 3.8 (Greenhouse Gas Emissions) demonstrates that the Project's greenhouse gas emissions would be below the applicable threshold of significance and no mitigation is necessary. CDPR concurs with Heal the Bay that the native habitat restoration would sequester carbon and provide a net climate change benefit compared to baseline environmental conditions.

C6. CDPR and TNC have actively built relationships with community members, local community-based organizations, neighborhood councils, agencies, and elected officials in an effort to learn about local needs and priorities, incorporate feedback wherever possible, and to maintain and increase transparency regarding the Project.

Mujeres de la Tierra engaged with local communities around the Bowtie Wetland Demonstration Project from August 2019 to March 2020. In their final report (https://20f486d3-c035-4003-ac30-d76e47f4eb2f.filesusr.com/ugd/7c9145_4f84fb53509741c5bcdc753e447d9705.pdf) Detailing community

feedback, they concluded that the five key themes that should guide future nature-based investments in the area include:

- Nature-based investments are indigenous and thus, should be acknowledged and celebrated.
- Plan with the community as the intended audience and primary beneficiary.
- Address the needs of the community creatively, realistically, and honestly through projects.
- Neutralize future gentrification and displacement and recognize that all residents, including unhoused community members, have a right to access public spaces.
- Ensure businesses who implement projects hire locally and pay equitably.

TNC and CDPR have used Mujeres de la Tierra's findings to shape regular engagement with 4 Neighborhood Councils to listen and learn about local priorities as well as share transparent information regarding the Project.

TNC and CDPR have conducted outreach to Spanish speaking communities and provide all Project materials in English and Spanish.

There will be temporary restrooms available on site while the rest of the 18-acre Bowtie Parcel is being developed. Water fountains and restrooms are part of the 18-acre development park project.

CDPR and TNC continue to cultivate partnerships with tribes and tribal organizations who have responded to our invitations to connect and collaborate. We defer to our partners as to whether they will want to participate in the creation of the signage, and whether they want specific information noted. The creation of the signage will include extensive community engagement.

CDPR and TNC are developing an operation and maintenance plan with design consultants that includes all elements of the Project (plantings, stormwater facilities, wetland, etc.).

D. Responses to Comments from James Kiehl

D1. The Project will divert water from the storm drain and improve water quality by filtering the water through an underground treatment train and aboveground wetland. There is a trash screen that will capture large debris and then the treatment train will filter out smaller pollutants and sediment. Treated water will either remain in the wetland or flow back into the storm drain and the Los Angeles River. Water beyond the capacity of the project's system will bypass the diversion and continue to flow, as it does now, into the Los Angeles River.

D2. Addressing trash, through ongoing maintenance, is an important consideration for this Project. Trash filters and a treatment train for the storm drain will be included as part of the Project. This is a Los Angeles County Flood Control district storm drain, and it would be regularly cleaned out at least a few times a year.

E. Responses to Comments from Alejandro Palomino

E1. We appreciate the comment that an EIR be completed for the entire parcel and agree that completing comprehensive analysis of the entire parcel is necessary. Throughout the planning process, we have made every effort to remain consistent with requirements and guidelines set forth in programmatic documentation including the USACE's Integrated Feasibility Study which provides the framework for the restoration of the Los Angeles River. From this document, CDPH has developed projects which will provide for habitat restoration as well as provide additional public benefit including new visitor use opportunities. We have utilized a thorough process to study the Project footprint and will implement established and effective avoidance, minimization and mitigation measures to ensure that impact to the Project site and any potential impact as a result of construction and operation will remain less-than-significant. Please refer to the IS/MND including the mitigation measures for the details of what will be implemented.

While the entire Bowtie Parcel will ultimately be a contiguous publicly accessible state park, there are two individual projects happening that will provide separate features and benefits to help meet the overall improvement of the Los Angeles River. As a result, mitigation and remediation efforts will likely differ based on the features to be built for each project. There will be thorough environmental analyses for the entire G1 parcel. This CEQA IS/MND is for the Bowtie Wetland Demonstration Project and CDPH is currently preparing CEQA/NEPA compliance for the development of the remaining G1 parcel.

E2. We understand your concern over the remediation of the G1 parcel being done in a segmented or "piece meal" fashion. The two projects occurring within the G1 parcel will both be subject to hazardous waste remediation and oversight by the Department of Toxic Substances Control. The implementation of the removal action at the Bowtie Wetland Demonstration Project site will improve environmental quality and ensure the health and safety of the public. The removal action is being performed according to all required health and safety guidelines. Remediating the northern end of the Bowtie Parcel first will allow the Wetland Demonstration Project to proceed, thus resulting in the area remaining for future cleanup smaller and the action itself consequently less disruptive.

E3. Multiple biological surveys were completed onsite and they are described in the CEQA documentation as well as the Biological Resources Technical Report. Surveys included observations of migratory birds, small mammals, and above-ground amphibian and reptiles. Additional surveys for other portions of the Bowtie Parcel will be conducted as part of the future CEQA/NEPA environmental review.

CDPH and TNC have been closely collaborating with the California Department of Fish and Wildlife (CDFW), regarding avoidance/minimization measures for least Bell's vireo. Rather than conducting protocol-level surveys for Bell's vireo, CDPH has collaborated closely with CDFW to implement additional mitigation measures to the Project. These additional measures can be found in the Final IS/MND, and include the installation of a temporary sound barrier if the breeding/nesting season cannot be avoided, wildlife preconstruction surveys (including those for least Bell's vireo), biological monitoring, and worker environmental awareness training.

E4. Many meetings and conversations related to the Bowtie Wetland Demonstration Project and the associated cleanup have been conducted at Neighborhood Council meetings, coordinated community events, and by DTSC during the public comment period. Future meetings regarding the redevelopment and cleanup plans for the larger remainder of the Bowtie Parcel will be scheduled as that project planning

process proceeds. Environmental documentation has been and will be prepared to reduce the amount of technical verbiage and ensure that as wide a range of the public can understand potential impacts of the project and how they will be mitigated. Additionally, public review required under CEQA for future project development will give the public the opportunity to provide input.

DTSC oversees the cleanup process; they do not direct it and they do not implement it. Dust control/mitigation on the Bowtie Wetland Demonstration Project site is a priority to the Project proponents and they have assured DTSC and community members they intend to implement robust and demonstrable control measures during cleanup and construction. Documents will continue to be made available to the public, including the dust monitoring plan, transportation plan, and the construction stormwater pollution protection plan. These plans will be submitted to DTSC for review in advance of the commencement of remediation or Project construction.

F. Responses to Comments from Diamanda Villareal

Thank you for your comment expressing support for the remediation of the soil on the Project site. The Bowtie Wetland Demonstration Project is a 3-acre portion of the 18-acre Bowtie Parcel owned by CDPR. The Project is a habitat enhancement, stormwater management and public access project. The majority of the 3-acre Project footprint will be comprised of a wetland and native habitat. There will be trails and overlooks provided for the public to utilize. Due to the limited space on this 3-acre portion of the site, there will not be room for business stalls, exercise equipment, or a gym. However, dogs will likely be provided some level of access to the G1 parcel. CDPR may incorporate some of the other suggestions into the larger Bowtie Parcel provided there is a public support for their inclusion.

Please contact Sarai Jimenez at sarai.jimenez@tnc.org or (213) 787-9418 for more information about the project design.

G Responses to Comments from Alejandro Palomino

G1. Over the years many community members advocated for the California Department of Parks and Recreation (CDPR) to acquire and develop portions of the former Taylor Yard to create public parks. In 2000 the "Coalition for a State Park at Taylor Yard" formed in opposition to proposed warehouse development. As a result, CDPR purchased, designed, and developed Rio De Los Angeles State Park. When the Bowtie property became available in 2003, the State purchased it as well with the intent of park development to occurring at a later date. The Bowtie is envisioned as naturalized open space for passive recreation in the general plan for Rio del Los Angeles State park. In a survey of more than 1000 people for the Bowtie Conceptual Design in 2021, community members overwhelmingly noted their desires to view wildlife.

G2. The mission of CDPR is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation. In partnership with the CDPR, The Nature Conservancy is developing a multi-benefit stormwater management and habitat enhancement demonstration project along the Los Angeles River on a portion of the Bowtie Parcel which is owned by CDPR. The project will enhance habitat, improve water quality, and provide public access. The

project will receive water from a storm drain that now runs underneath the property, move the water through a wetland planted with native plants, retain some water on-site, and release the remaining treated/cleaned water into the river. The Bowtie Wetland Demonstration Project will be a public amenity for the community to enjoy and the increase in habitat will also have many benefits for wildlife.

According to the CalEnviroScreen4.0 the communities surrounding the project area are within the 70th to 100th percentile of those disproportionately burdened by multiple sources of pollution. There are 5.75 acres of park space within a half-mile of the undeveloped Bowtie Parcel's entrance; this equates to only 1.13 acre of park space per 1,000 residents. The existing park space which exists within a half-mile radius consists of two local parks, Glenhurst Park and Lewis MacAdams Riverfront Park. Glenhurst Park is a small 0.39-acre neighborhood pocket park on the northeast side of the Los Angeles River which provides a small open grassy area and a play structure for children. Lewis MacAdams Riverfront Park is a 5.36-acre neighborhood park located on the southwest side of the Los Angeles River which contains a skate park, grassy open area, picnic tables, natural habitat, stormwater retention features, and access to the river. Unfortunately, this riverfront park is virtually inaccessible to the 65% of the residents in this half-mile radius who live on the northeast side of the river. While technically within a half-mile radius, residents of the northeast neighborhoods would actually have to walk much farther than half-a-mile across along a very busy road, over a bridge, and through dangerous intersections to reach Lewis MacAdams Riverfront Park.

Currently there is no safe way to access the riverfront within a half-mile on the northeast side of the river, while the residents on the southeast side of the river currently have access to a continuous bike path which runs alongside the river's edge. If we expand the distance to 1.0 mile from the proposed park entrance, the amount of park space increases but so does the population it serves and this only marginally increases the park acres/1,000 residents ratio.

G3. The Taylor Yard Equity Strategy (TYES) aims at addressing gentrification and displacement issues for all of Taylor Yard. TYES will undertake a vital community engagement process to uplift equitable community development priorities in light of the major public infrastructure investments around the Taylor Yard and LA River area, centering the most impacted and marginalized voices.

G4. Both CDPR and TNC staff have made their contact information widely available to the public. Staff regularly attend four separate monthly Neighborhood Council Board meetings to share updates about the Bowtie. At events hosted by CDPR and TNC, the public is welcome to ask questions and express their feedback. For more information please visit: <https://www.100acrepartnership.org/about-4>.

G5. Numerous site investigations have been completed over the years to understand the site conditions for the Bowtie Wetland Demonstration Project. For more information please visit: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001919.

G6. The State Park Facilities and Maintenance Program are currently working to purchase materials and secure fencing contracts. Due to CDPR contracting requirements the work will likely occur in phases. CDPR has already started repairing and replacing damaged fencing along the perimeter of the parcel adjacent to the rail corridor and river. CDPR is in the process of finalizing a contract to fence and gate the

entry at Casitas Ave. This new fencing is also timely in anticipation of upcoming site remediation and construction work on Bowtie Wetland Demonstration Project early next year.

1.7 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~~ CDPR in determining the appropriate California Environmental Quality Act (CEQA) document needed to support 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 Department of Parks and Recreation | 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.

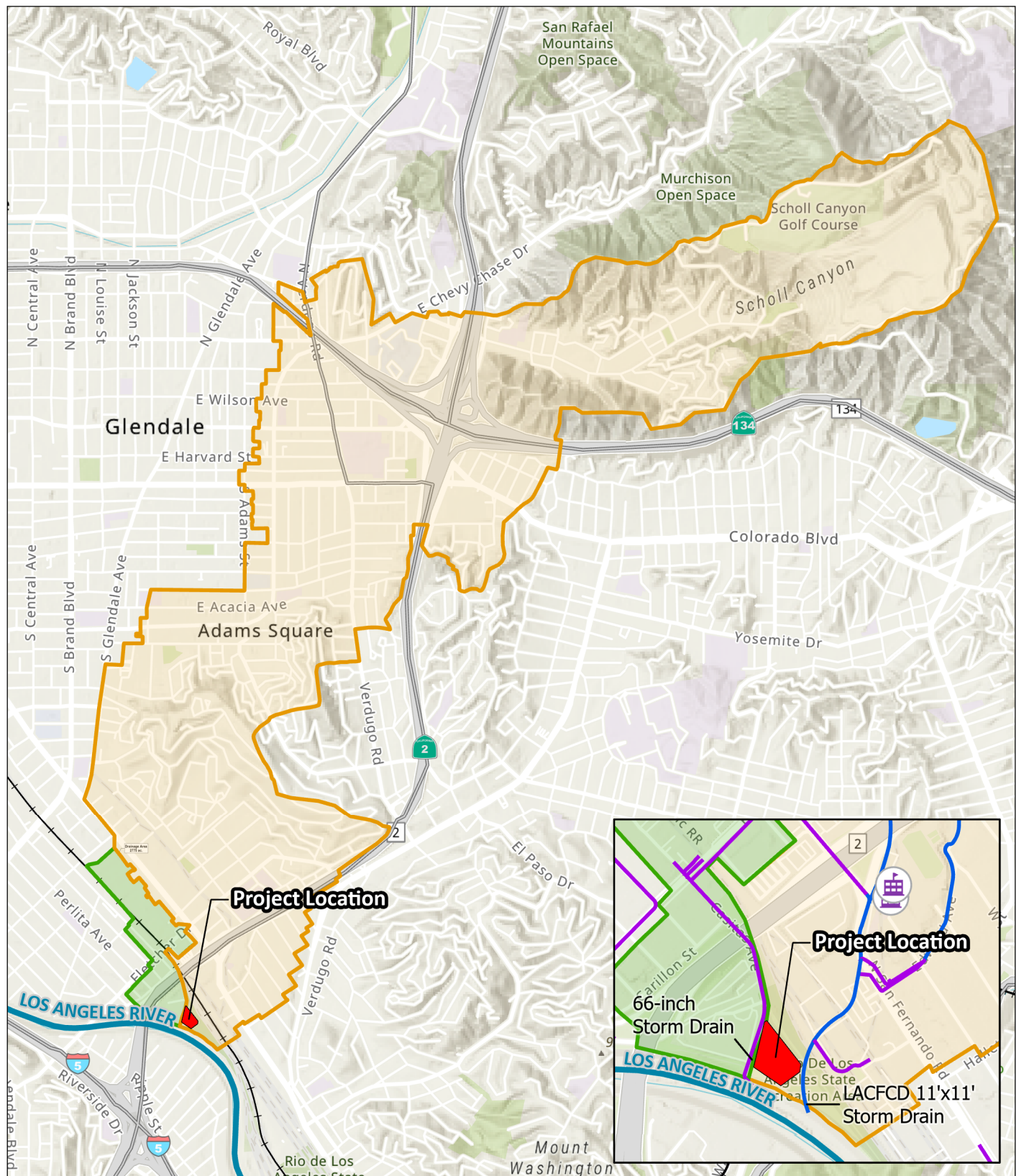
The Project Area was a part of the Taylor Yard rail yard complex, the former freight classification yard (1925-1973) of Southern Pacific Railroad. Taylor Yard is comprised of several parcels and the Bowtie parcel was previously referred to as the G1 parcel and may sometimes be referred to as such in 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 CDPR 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 CDPR 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 CDPR, 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~~ CDPR. 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~~ CDPR. 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

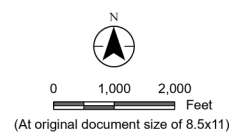


Figure 1 Project Location and Drainage Area

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, Leaf's 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.

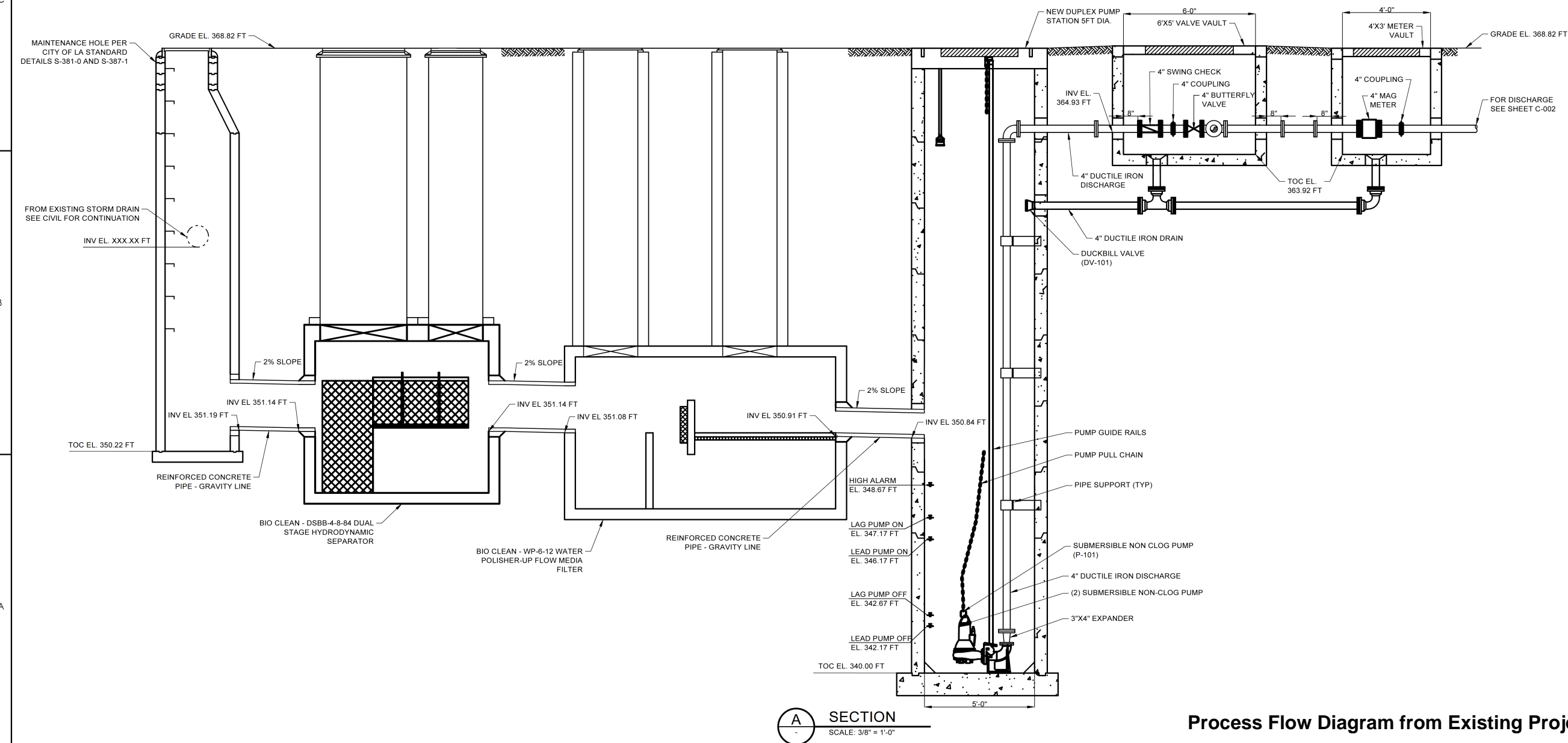
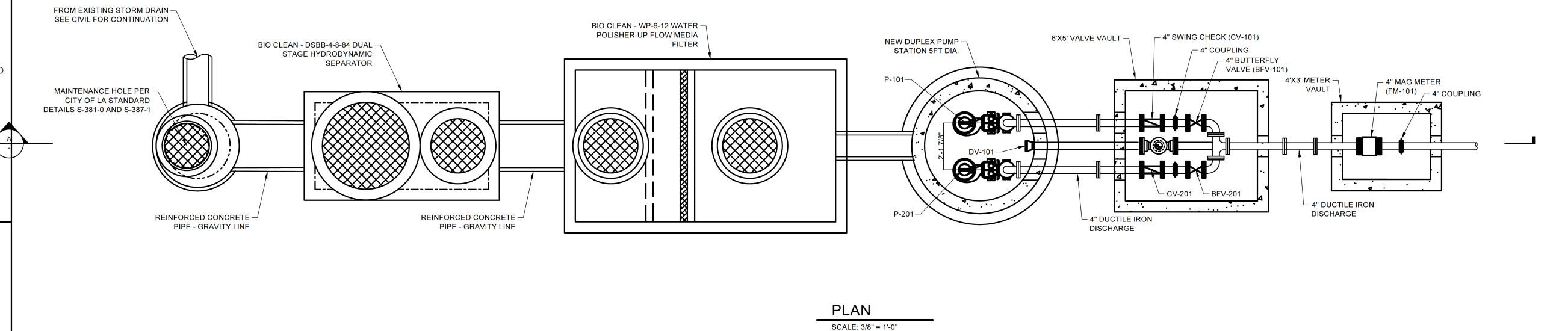







Figure 2
Process Flow Diagram from Existing Project Schematic



PLANT SYMBOL LEGEND

- 
 UPLAND-1 COASTAL OAK WOODLAND COMMUNITY
- 
 UPLAND-2 NATIVE DECIDUOUS
- 
 UPLAND-1 NATIVE EVERGREEN
- 
 TRANSITIONAL-1 NATIVE DECIDUOUS
- 
 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.

| | | |
|--|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Greenhouse Gases | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Agricultural and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Transportation |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities and Service Systems |
| <input type="checkbox"/> Energy Resources | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Wildfire |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing | <input checked="" type="checkbox"/> 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 Incorporated 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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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?

Finding: No Impact

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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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?

Finding: No Impact

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))?

Finding: No Impact

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?

Finding: No Impact

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?

Finding: No Impact

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 Incorporated | Less than Significant Impact | No Impact |
|---|--------------------------------------|---|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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: (O₃), carbon monoxide (CO), nitrogen oxide (NO₂), fine particulate 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 (PM₁₀), sulfur dioxide (SO₂), 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 |

| Pollutant | State Designation | Federal Designation |
|---|-------------------------|----------------------------|
| Nitrogen Dioxide (NO ₂) | Unclassified/Attainment | Unclassifiable/ Attainment |
| Sulfur Dioxide (SO ₂) | Attainment | Attainment |
| Lead (Pb) | Attainment | Non-Attainment (Partial) |
| Hydrogen Sulfide (H ₂ S) | 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 O₃ and PM_{2.5}, the state standard for PM₁₀, 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 PM₁₀ 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 | PM₁₀ | 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 | PM₁₀ | 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. The 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 Incorporated | 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

| Scientific Name | Common Name |
|------------------------------------|-------------------------------|
| POLYGONACEAE | BUCKWHEAT FAMILY |
| <i>Eriogonum fasciculatum</i> | California buckwheat |
| <i>Persicaria maculosa</i> | spotted ladythumb* |
| SALICACEAE | WILLOW FAMILY |
| <i>Salix lasiolepis</i> | red willow |
| SOLANACEAE | POTATO FAMILY |
| <i>Nicotiana glauca</i> | tree tobacco* |
| ARECACEAE | PALM FAMILY |
| <i>Washingtonia robusta</i> | Mexican fan palm* |
| CYPERACEAE | SEDGE FAMILY |
| <i>Cyperus eragrostis</i> | tall flat sedge |
| <i>Schoenoplectus californicus</i> | California bulrush |
| <i>Schoenoplectus americanus</i> | American three-square bulrush |
| POACEAE | GRASS FAMILY |
| <i>Arundo donax</i> | giant reed* |
| <i>Pennisetum setaceum</i> | crimson fountaingrass* |
| <i>Polypogon monspeliensis</i> | rabbitsfoot grass* |
| TYPHACEAE | CATTAIL FAMILY |
| <i>Typha</i> 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 vociferus*), 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 (*Haemorrhous 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 (*Psaltiriparus 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 | | |
| <i>Apis mellifera</i> | honey bee | non-native |
| <i>Gerridae</i> family | water strider | native |
| <i>Libellula saturata</i> | flame skimmer dragonfly | native |
| <i>Phoebis sennae</i> | cloudless sulphur butterfly | native |
| <i>Pieris rapae</i> | cabbage white butterfly | non-native |
| FISH | | |
| <i>Cyprinus carpio</i> | common carp | non-native |
| <i>Centrarchidae</i> family | unknown bass | non-native |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

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

| Scientific Name | Common Name | Native Status |
|-----------------------------------|-------------------------------|---------------|
| <i>Sturnus vulgaris</i> | European starling | non-native |
| <i>Stelgidopteryx serripennis</i> | northern rough-winged swallow | native |
| <i>Zenaida macroura</i> | mourning dove | native |
| MAMMALS | | |
| <i>Otospermophilus beecheyi</i> | ground squirrel | native |
| <i>Sylvilagus sp.</i> | 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 CNDDDB 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 | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------|---------------------|----------|--|--|----------------------|
| Scientific Name | Common Name | | | | |
| INVERTEBRATES | | | | | |
| <i>Bombus crotchii</i> | Crotch's bumble bee | SC, S1S2 | Coastal California east to the sierra-cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> . | 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 (<i>Eriognum fasciculatum</i>), a food plant for the species occurs within the BSA, but there is none within the Project area. | High |
| <i>Danaus plexippus</i> | 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 <i>Asclepias</i> . | No suitable habitat for food or roosting occurs within the BSA. | Not Likely to Occur |
| <i>Eugnosta busckana</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------------|--------------------------------------|-----------------------|---|--|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Glyptostoma gabrielense</i> | 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 |
| <i>Gonidea angulata</i> | 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 | | | | | |
| <i>Rana muscosa</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-----------------------|------------------------|----------------|--|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Spea hammondi</i> | 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 |
| <i>Taricha torosa</i> | 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 | | | | | |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-------------------------------------|------------------------------------|----------------|--|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Anniella stebbinsi</i> | 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 |
| <i>Arizona elegans occidentalis</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-------------------------------|---------------------|------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Emys marmorata</i> | 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 |
| <i>Phrynosoma blainvillii</i> | 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 | | | | | |
| <i>Accipiter cooperii</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|----------------------------|----------------------|---------------|---|---|--|
| Scientific Name | Common Name | | | | |
| <i>Accipiter striatus</i> | 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 |
| <i>Agelaius phoeniceus</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-------------------------------------|--|---------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Aimophila ruficeps canescens</i> | 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 |
| <i>Athene cunicularia</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------|------------------|---------------|--|---|--|
| Scientific Name | Common Name | | | | |
| <i>Ardea alba</i> | 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 CNDDDB 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 |
| <i>Ardea herodias</i> | 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 CNDDDB 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 |
| <i>Buteo swainsoni</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-----------------------------------|---------------------|-----------------------|--|--|---|
| Scientific Name | Common Name | | | | |
| <i>Calypte costae</i> | 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 |
| <i>Chaetura vauxi</i> | 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 |
| <i>Coturnicops noveboracensis</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-----------------------------------|--------------------------------|-------------------|---|--|--|
| Scientific Name | Common Name | | | | |
| <i>Elanus leucurus</i> | 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 |
| <i>Empidonax traillii extimus</i> | 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 |
| <i>Egretta thula</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------------|---------------------------|-------------|---|---|---|
| Scientific Name | Common Name | | | | |
| <i>Falco peregrinus anatum</i> | 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 |
| <i>Larus californicus</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------------|---------------------------|---------------|---|---|--|
| Scientific Name | Common Name | | | | |
| <i>Nannopterum auritum</i> | 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 CNDDDB 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 |
| <i>Nycticorax nycticorax</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------------------|------------------------|-----------------------|---|--|--|
| Scientific Name | Common Name | | | | |
| <i>Pandion heliaetus</i> | 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, 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 |
| <i>Pelecanus erythrorhynchos</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|---|--------------------------------|--------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Plegadis chihi</i> | 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 |
| <i>Polioptila californica californica</i> | 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 (<i>Artemisia californica</i>) 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|---------------------------|----------------|------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Riparia riparia</i> | 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 |
| <i>Setophaga petechia</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------------|--------------------|------------|--|---|--|
| Scientific Name | Common Name | | | | |
| <i>Vireo bellii pusillus</i> | 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, <i>Baccharis</i> , 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 | | | | | |
| <i>Antrozous pallidus</i> | 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 from 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------------------|---------------------|------------------|---|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Eumops perotis californicus</i> | 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 |
| <i>Lasionycteris noctivagans</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--|------------------------|------------------|---|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Lasiurus cinereus</i> | 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 |
| <i>Lasiurus xanthinus</i> | 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 |
| <i>Microtus californicus stephensi</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--|----------------------------|------------------|---|--|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Neotoma lepida intermedia</i> | 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 |
| <i>Nyctinomops macrotis</i> | 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 |
| <i>Onychomys torridus ramona</i> | 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 |
| <i>Perognathus longimembris brevinasus</i> | 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 |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|----------------------|-----------------|----------------|--|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Taxidea taxus</i> | 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 CNDDDB, 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 |
|--|---------------------|---|-----------------|---|
| <i>Arenaria paludicola</i> 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. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-------------------------|--|-----------------|--|
| <i>Astragalus brauntonii</i> 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. |
| <i>Astragalus tener</i> var. <i>titi</i> coastal dunes milk-vetch | FE, SE 1B.1, S1 | Coastal bluff scrub (sandy), coastal dunes, and coastal prairie (mesic). Often in vernal 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. |
| <i>Atriplex parishii</i> 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. |
| <i>Atriplex serenana</i> var. <i>davidsonii</i> 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. |
| <i>Berberis nevinii</i> 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. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|--|-------------------|---|-----------------|---|
| <i>Calochortus clavatus</i> var. <i>gracilis</i> 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. |
| <i>Calochortus plummerae</i> 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. |
| <i>Calystegia felix</i> 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. |
| <i>Centromadia parryi</i> ssp. <i>australis</i> 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. |
| <i>Centromadia pungens</i> ssp. <i>laevis</i> 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. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-------------------------|--|-----------------|---|
| <i>Chorizanthe parryi</i> var. <i>fernandina</i> 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. |
| <i>Chorizanthe parryi</i> var. <i>parryi</i> 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. |
| <i>Dodechahema leptoceras</i> slender-horned spineflower | FE, SE, 1B.1, S2 | Annual. Chaparral, 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. |
| <i>Dudleya multicaulis</i> 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. |
| <i>Helianthus nuttallii</i> ssp. <i>parishii</i> 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. |
| <i>Horkelia cuneata</i> var. <i>puberula</i> 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. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-------------------------|--|-----------------------------------|--|
| <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> 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. |
| <i>Lepidium virginicum</i> var. <i>robinsonii</i> 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. |
| <i>Malacothamnus davidsonii</i> 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. |
| <i>Nasturtium gambelii</i> 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. |
| <i>Navarretia prostrata</i> 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. |
| <i>Pseudognaphalium leucocephalum</i> 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. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-----------------|---|------------------------------|---|
| <i>Quercus dumosa</i> 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. |
| <i>Ribes divaricatum</i> var. <i>Parishii</i> 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. |
| <i>Sidalcea neomexicana</i> 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. |
| <i>Spermolepis lateriflora</i> 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. |
| <i>Symphyotrichum defoliatum</i> 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. Vernal 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. |
| <i>Symphyotrichum greatae</i> 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. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|--|-----------------|---|-------------------|---|
| <i>Thelypteris puberula</i> var. <i>sonorensis</i> 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.

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.

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.

As discussed in Section 3.13 (Noise) and shown in Appendix F (Construction Noise Worksheet), unmitigated construction noise levels estimated to occur at the nearest suitable wildlife habitat in the adjacent Los Angeles River are estimated to exceed a 60 dBA threshold of significance for wildlife impacts. Mitigation Measure BIO-4 includes construction schedule limitations to avoid the breeding/nesting season of sensitive bird species or installation and maintenance of a temporary sound attenuation barrier during construction to reduce potentially significant noise impacts to wildlife to less than significant.

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, and a temporary sound attenuation barrier should construction occur during the nesting season. 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~~ within the Project site and a 500 foot buffer (where accessible). 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; this qualified biologist shall have experience with special-status species known to occur in the region, including least Bell's vireo. 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 CDPR 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 CDPR. 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 CDPR, 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: To avoid impacts to or take of both common and/or special-status birds (e.g., least Bell's vireo), nestlings, or their eggs, and to the extent feasible, no ground-disturbing activities, including staging, as well as disturbances to native and nonnative vegetation should not occur during the recognized breeding season from Feb 15 through September 15 (January 1 through August 15 for raptors) to avoid impacts to or take of common and/or special-status birds, nestlings, or their eggs.

If construction can't avoid the nesting season, then a temporary sound attenuation barrier shall be placed along the western limits of construction to reduce potential construction noise levels in the bed of the adjacent Los Angeles River. The construction contractor shall be responsible for demonstrating the design of the temporary sound attenuation barrier achieves a minimum of a 15 decibel reduction in noise levels.

Prior to initial ground disturbance or vegetation removal (including construction of the sound attenuation barrier), the Applicant shall provide evidence to CDPR 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~~ notify 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~~ 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, location of nest in relation to the sound attenuation barrier, 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; nest locations within the areas protected by the sound attenuation barrier will only require notification to the USFWS and CDFW. 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 Incorporated | Less than Significant Impact | No Impact |
|--|---|---|---|--------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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 began moving toward closing ~~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 of 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 CDPR 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 CDPR 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 CDPR 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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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?**

Finding: Less Than Significant Impact

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 Incorporated | 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. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii. Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv. Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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 not subject to 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 CDPR lands, a permit shall be required from CDPR 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 Incorporated | Less than Significant Impact | No Impact |
|--|--------------------------------------|---|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

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 CO₂. CH₄ and N₂O have GWP of 21 and 310 times that of CO₂, respectively. For this analysis, GHGs other than CO₂ were scaled to a single factor to determine the equivalent amount of CO₂ (CO₂e) for each gas. For CO₂, the scaling factor is 1.0. The scaling factors for CH₄ and N₂O 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?**

Finding: Less Than Significant Impact

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 CO₂, CH₄, and N₂O 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 CO₂e 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 CO₂e 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 ₂ e |
| 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 CO₂e 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 CO₂e emissions is below the 10,000 metric tons CO₂e 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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 CDPR 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 CDPR. 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 surface 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 Incorporated | Less than Significant Impact | No Impact |
|---|--------------------------------------|---|-------------------------------------|--------------------------|
| a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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: <ul style="list-style-type: none"> 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. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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 Incorporated | Less than Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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, CDPH 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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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?**

Finding: No Impact

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?**

Finding: No Impact

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 Incorporated | 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Generation of excessive groundborne vibration or groundborne noise levels. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 L_{eq} . The percentage of time that a given sound level is exceeded also can be designated as L_{10} , L_{50} , and L_{90} . The subscript denotes the percentage of time that the noise level was exceeded during the measurement period. Namely, an L_{10} 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 L_{90} is that level exceeded 90 percent of the time and this level is often called the base level of noise at a location. The L_{50} 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 L_{dn} 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 |

| Terms | Definitions |
|----------------------------|---|
| | 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 | <ul style="list-style-type: none"> Jackhammer Stock Car Races | | |
| 120 | <ul style="list-style-type: none"> Ambulance Siren Leaf Blower (110 dBA) Rock Concert (110 dBA) Car Horn (110 dBA) | <ul style="list-style-type: none"> Baby Crying on Shoulder (110 dBA) | |
| 100 | <ul style="list-style-type: none"> Snowmobile Lawnmower (96dBA) Backhoe (75-95 dBA) | | Very Loud |

| A-Weighted Sound Level in dBA | Outdoor Examples | Indoor Examples | Subjective Impression |
|-------------------------------|---|--|-----------------------|
| | <ul style="list-style-type: none"> Pile driver at 50' (90-105 dBA) | | |
| 90 | <ul style="list-style-type: none"> Motorcycle at 25' Propeller Airplane flyover at 1000' (88 dBA) Diesel Truck at 50' @ 40mph (84 dBA) | <ul style="list-style-type: none"> Shouted Conversation Vacuum cleaner (60-85 dBA) | |
| 80 | <ul style="list-style-type: none"> Car at 25' @ 65mph (77 dBA) | <ul style="list-style-type: none"> Garbage Disposal Ringing Telephone Living Room Music or TV (70-75 dBA) | Moderately Loud |
| 70 | | <ul style="list-style-type: none"> Dishwasher (55-70 dBA) Normal Conversation (60-65 dBA) | |
| 60 | <ul style="list-style-type: none"> Air-conditioner at 100' | <ul style="list-style-type: none"> Sewing Machine | |
| 50 | | <ul style="list-style-type: none"> Refrigerator | |
| 40 | <ul style="list-style-type: none"> Quiet Residential Area | | Quiet |
| 20 | <ul style="list-style-type: none"> Rustling of Leaves | <ul style="list-style-type: none"> 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 With Mitigation Incorporated

The City of Los Angeles CEQA Thresholds Guide includes screening criteria that CDPR 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 to human receptors.

As discussed in Section 3.4, the Los Angeles River adjacent to the Project site contains habitat that could support threatened and/or endangered species, including but not limited to least Bell's vireo. CDFW's June 8, 2023 comment letter on the IS/MND cites literature that construction noise can cause adverse effects to wildlife at exposure levels of only 55-60 dBA. USFWS uses 60 dBA as a practical threshold above which substantial impacts to the least Bell's vireo may occur. Correspondingly, a 60 dBA threshold of significance for determining potential construction noise impacts to wildlife, including, but not limited to least Bell's vireo has been adopted for purposes of this analysis. Noise levels that could result from Project construction at the nearest suitable wildlife habitat in the adjacent Los Angeles River were estimated using a multi-point source noise attenuation model. It was assumed that all of the equipment anticipated to be necessary during the most intense construction activities all operate simultaneously. While this is unlikely to occur due to site size limitations, it provides a conservative analysis by which to analyze the Project's potential noise impacts. As shown in Appendix F (Construction Noise Worksheet), unmitigated construction noise levels at the nearest suitable wildlife habitat in the adjacent Los Angeles River are estimated to be approximately 73.2 dBA. The Project could result in a potentially significant noise impact because construction noise levels could exceed the 60 dBA threshold of significance for wildlife. Mitigation Measure BIO-4 which includes construction schedule limitations to avoid the nesting season of sensitive bird species or installation and maintenance of a temporary sound attenuation barrier during construction shall be implemented to reduce potentially significant wildlife noise impacts to 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 with mitigation incorporated.

Mitigation Measures

BIO-4 Nesting Bird Surveys and Avoidance Measures

- 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 Incorporated | 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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)?**

Finding: No Impact

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?**

Finding: No Impact

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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Parks? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| v) Other Public Facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 0.94 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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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?**

Finding: Less than Significant Impact

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?**

Finding: Less than Significant Impact With Mitigation

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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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 Incorporated | 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 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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

CDPR 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. CDPR 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.

CDPR 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. CDPR 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, CDPR 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.~~

Based on the results of tribal consultation conducted for the Project pursuant to California Public Resources Code Section 21080.3.1 (d), the Project Proponent shall obtain the services of a qualified Tribal Monitor(s) representing the Gabrieleño Band of Mission Indians-Kizh Nation 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 from the Gabrieleño Band of Mission Indians-Kizh Nation to identify their tribal cultural resources and will be present on-site during the construction phases that involve any ground disturbing activities. The Tribal 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 work conducted during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21084.3 (a) through (b). 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 tribal cultural 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, if encountered, shall be treated appropriately according to the Secretary of Interior Standards. If such material is collected, it shall be curated at a CDPR facility ~~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 Incorporated | 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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 Incorporated

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 it 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 Incorporated | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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) Finding: Less Than Significant Impact

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 Incorporated | 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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 | <p>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 <u>within the Project site and a 500 foot buffer (where accessible)</u>. 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.</p> <p>A qualified biologist shall be onsite during all ground disturbance and vegetation removal activities throughout the construction phase; <u>this qualified biologist shall have experience with special-status species known to occur in the region, including least Bell's vireo</u>. The qualified biologist(s) shall have the right to halt all activities</p> | Surveys (and relocations, if needed) prior to ground disturbance or vegetation clearing. Monitoring during construction ground disturbances and vegetation removals. | The Nature Conservancy | CDPR | Review and approval of pre-construction clearance biological survey reports and daily construction biological monitoring logs during ground disturbances and vegetation removals. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|---|--------------------------------------|-------------------------------|-----------------------------|---|
| | <p>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.</p> <p>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.</p> | | | | |
| BIO-2 | <p>Environmental Awareness Training: Prior to initial ground disturbance, the Applicant shall submit proof to CDPR 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</p> | Prior to initial ground disturbance. | The Nature Conservancy | CDPR | Review and approval of Environmental Awareness Training content and logs of personnel training. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|---|--------------------------------------|-------------------------------|-----------------------------|---|
| | attendees at these meetings shall be maintained and submitted to CDPR. 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 | <p>Implement Best Management Practices: Implement Best Management Practices: Prior to initial ground disturbance, the Applicant shall submit grading plans and specifications to CDPR CDPR, which indicate that the proposed Project shall implement the following BMPs:</p> <ul style="list-style-type: none"> • 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 | Prior to initial ground disturbance. | The Nature Conservancy | CDPR | Review and approval of plans and specifications that include required BMPs. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|-----------------------------|-------------------------------|-----------------------------|---------------------|
| | <p>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.</p> <ul style="list-style-type: none"> 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. | | | | |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|-----------------------------|-------------------------------|-----------------------------|---------------------|
| | <ul style="list-style-type: none"> 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 | | | | |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|---|-------------------------------|-----------------------------|---|
| | <p>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.</p> <ul style="list-style-type: none"> • 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 | <p>Nesting Bird Surveys and Avoidance Measures: <u>To avoid impacts to or take of both common and/or special-status birds (e.g., least Bell's vireo), nestlings, or their eggs, and to the extent feasible, no ground-disturbing activities, including staging, as well as disturbances to native and nonnative vegetation should not occur during the recognized breeding season from Feb 15 through September 15 (January 1 through August 15 for raptors) to avoid impacts to or take of common and/or special-status birds, nestlings, or their eggs.</u></p> <p><u>If construction can't avoid the nesting season, then a temporary sound attenuation barrier shall be placed along the western limits of construction to reduce potential construction noise levels in the bed of the adjacent Los Angeles River. The</u></p> | <p>Prior to initial ground disturbance <u>and during construction</u> if during avian nesting season; and during construction if nesting birds observed within buffer distances.</p> | The Nature Conservancy | CDPR | <p>Review and approval of pre-ground disturbance nesting bird survey reports and daily construction monitoring logs if nesting birds within buffer distances. <u>Review and approval of contractor work plan for temporary sound attenuation barrier demonstrating minimum 15 decibel design reduction.</u></p> |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|---|-----------------------------|-------------------------------|-----------------------------|---------------------|
| | <p><u>construction contractor shall be responsible for demonstrating the design of the temporary sound attenuation barrier achieves a minimum of a 15 decibel reduction in noise levels.</u></p> <p>Prior to initial ground disturbance or vegetation removal (including construction of the sound attenuation barrier), the Applicant shall provide evidence to CDPR 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.</p> <p>The Applicant shall coordinate with <u>notify</u> 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 <u>A</u> 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</p> | | | | |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|---|-------------------------------|-----------------------------|---|
| | common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, <u>location of nest in relation to the sound attenuation barrier</u> , 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; <u>nest locations within the areas protected by the sound attenuation barrier will only require notification to the USFWS and CDFW</u> . 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. | Prior to initial ground disturbance. | The Nature Conservancy | CDPR | Review and approval of Environmental Awareness Training content and logs of personnel training. |
| 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. | Monitoring during construction ground disturbances. | The Nature Conservancy | CDPR | Review and approval of daily construction archaeological monitoring logs during construction ground disturbances. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|---|-------------------------------|-----------------------------|--|
| | 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 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 CDPR 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 | CDPR | Coordination, review and approval of evaluation and protection measures, if warranted. |
| 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 | Prior to Project construction activities. | The Nature Conservancy | CDPR | Review and approval of Paleontological Monitoring and Mitigation Plan and verification of content in Environmental Awareness Training. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|--|-------------------------------|-----------------------------|---|
| | 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 CDPR lands, a permit shall be required from CDPR 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. | During ground disturbance that exceeds 10 feet in depth across the Project area. | The Nature Conservancy | CDPR | 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. | CDPR | CDPR | Preparation and approval of documentation demonstrating work pause, assessment, and salvage/curation in collaboration with Natural History Museum of Los Angeles County (if necessary). |
| 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 Gabrieleno 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 | During construction-related ground disturbance activities. | The Nature Conservancy | CDPR | Retention of a qualified Native American Monitor(s) and review of daily monitoring records. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|-----------------------------|-------------------------------|-----------------------------|---------------------|
| | <p>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.</p> <p><u>Based on the results of tribal consultation conducted for the Project pursuant to California Public Resources Code Section 21080.3.1 (d), the Project Proponent shall obtain the services of a qualified Tribal Monitor(s) representing the Gabrieleño Band of Mission Indians-Kizh Nation 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.</u></p> <p><u>The monitor(s) must be approved by the Tribal Representatives from the Gabrieleño Band of Mission Indians-Kizh Nation to identify their tribal</u></p> | | | | |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|---|------------------------------|-------------------------------|-----------------------------|---|
| | <p><u>cultural resources and will be present on-site during the construction phases that involve any ground disturbing activities. The Tribal 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 work conducted during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21084.3 (a) through (b). 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 tribal cultural resources.</u></p> | | | | |
| TCR-2 | <p>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</p> | During Project construction. | The Nature Conservancy | CDPR | Retention of a qualified Native American Monitor(s) and review of daily monitoring records. |

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

| Mitigation Measure | Monitoring Action | Required Time of Compliance | Implementation Responsibility | Verification Responsibility | Verification Method |
|--------------------|--|-----------------------------|-------------------------------|-----------------------------|---------------------|
| | <p>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.</p> | | | | |

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~~ DEPARTMENT OF PARKS AND RECREATION

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~~ Department of Parks and Recreation, 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&_afLoop=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](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/losangelesciticacalifornia/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.

Initial Study/Mitigated Negative Declaration
Bowtie Parcel Demonstration Wetland Project

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

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

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

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

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

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 |

[illegible]

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

| 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 |

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

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 |

[illegible]

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

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**

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

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 |

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

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 |

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

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 |

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

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 |

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

**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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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**

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

| | 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

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-----------|-------------------------|----------|--------|-------------|------------|
| | 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

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|-----------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | 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

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

5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

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

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 |

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

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

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

| | 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 |

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

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**

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

| | 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 |

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

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 |

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

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 |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

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

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, Annual

| | 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

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

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

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

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

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 |

[illegible]

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

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 |

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

| | 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 |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| 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

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

| 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 |

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

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 |

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

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 |

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

**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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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**

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

| | 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

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

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 |

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

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

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

| | 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 |

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

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**

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

| 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

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

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

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

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

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 |

[illegible]

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

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 |

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

| | 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 |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| 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, Winter

| 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

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

| 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 |

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

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 | | 2,247.394 4 | 2,247.394 4 | 0.1546 | | 2,251.258 4 |
| 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 | | 2,396.902 5 | 2,396.902 5 | 0.1584 | | 2,400.862 7 |

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 | 2,872.691 0 | 2,872.691 0 | 0.9291 | | 2,895.918 2 |
| Total | 1.7109 | 17.9359 | 14.7507 | 0.0297 | 6.1351 | 0.7749 | 6.9101 | 3.3241 | 0.7129 | 4.0370 | 0.0000 | 2,872.691 0 | 2,872.691 0 | 0.9291 | | 2,895.918 2 |

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

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 | | 2,247.394 4 | 2,247.394 4 | 0.1546 | | 2,251.258 4 |
| 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 | | 2,396.902 5 | 2,396.902 5 | 0.1584 | | 2,400.862 7 |

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 | | 2,555.209 9 | 2,555.209 9 | 0.6079 | | 2,570.406 1 |
| Total | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | | 2,555.209 9 | 2,555.209 9 | 0.6079 | | 2,570.406 1 |

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

**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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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 |

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

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**

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

| | 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

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

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 |

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

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

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

| | 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 |

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

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**

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

| 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:

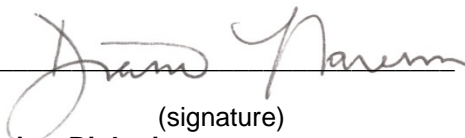
The Nature Conservancy
445 South Figueroa Street, Suite 1950
Los Angeles, CA 90071

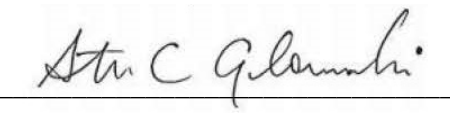
Prepared by:

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

BOWTIE DEMONSTRATION PROJECT

This document entitled Biological Resources Technical Report for the Bowtie Demonstration Project was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of The Nature Conservancy (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

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



Table of Contents

| | |
|--|------------|
| ACRONYMS AND ABBREVIATIONS | III |
| 1.0 INTRODUCTION..... | 1 |
| 1.1 PROJECT LOCATION | 1 |
| 1.2 PROJECT DESCRIPTION | 1 |
| 2.0 METHODOLOGIES..... | 2 |
| 2.1 LITERATURE REVIEW | 3 |
| 2.2 BIOLOGICAL SURVEYS AND HABITAT ASSESSMENT | 3 |
| 2.2.1 Site Reconnaissance and Wildlife Surveys..... | 3 |
| 2.2.2 Vegetation Mapping | 4 |
| 2.2.3 Aquatic Resources | 5 |
| 3.0 REGULATORY ENVIRONMENT | 6 |
| 3.1 FEDERAL REGULATIONS | 6 |
| 3.1.1 Federal Endangered Species Act..... | 6 |
| 3.1.2 Migratory Bird Treaty Act..... | 6 |
| 3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668) | 7 |
| 3.1.4 Federally Regulated Habitats | 7 |
| 3.1.5 National Environmental Policy Act..... | 7 |
| 3.2 STATE REGULATIONS | 8 |
| 3.2.1 California Environmental Quality Act | 8 |
| 3.2.2 California Endangered Species Act..... | 8 |
| 3.2.3 Section 1602 of the California Fish and Game Code..... | 9 |
| 3.2.4 Porter-Cologne Water Quality Control Act..... | 9 |
| 3.2.5 State-Regulated Habitats | 9 |
| 3.2.6 Native Plant Protection Act..... | 9 |
| 3.3 LOCAL REGULATIONS | 10 |
| 3.3.1 Los Angeles County General Plan – Chapter 9, Conservation and Natural Resources Element | 10 |
| 3.3.2 City of Los Angeles General Plan..... | 11 |
| 3.4 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS | 12 |
| 3.4.1 California Native Plant Society Rare Plant Program | 12 |
| 4.0 EXISTING CONDITIONS | 13 |
| 4.1 SETTING..... | 13 |
| 4.2 VEGETATION AND LAND COVERS | 13 |
| 4.2.1 Vegetation Communities and Land Cover Types..... | 14 |
| 4.2.2 Common Plant Species Observed..... | 15 |
| 4.3 COMMON WILDLIFE | 17 |
| 4.3.1 Terrestrial Invertebrates | 18 |
| 4.3.2 Fish..... | 18 |
| 4.3.3 Amphibians | 18 |
| 4.3.4 Reptiles..... | 19 |
| 4.3.5 Birds..... | 19 |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

Contents

| | | |
|------------|--|-----------|
| 4.3.6 | Mammals | 20 |
| 4.4 | AQUATIC RESOURCES | 23 |
| 4.5 | SOILS..... | 23 |
| 5.0 | SPECIAL-STATUS BIOLOGICAL RESOURCES | 24 |
| 5.1 | SPECIAL STATUS NATURAL COMMUNITIES..... | 24 |
| 5.2 | DESIGNATED CRITICAL HABITAT | 24 |
| 5.3 | SPECIAL STATUS PLANTS | 24 |
| 5.4 | SPECIAL STATUS WILDLIFE | 33 |
| 5.5 | WILDLIFE CORRIDORS AND SPECIAL LINKAGES | 53 |
| 5.5.1 | Wildlife Movement in the BSA | 54 |
| 6.0 | REFERENCES..... | 55 |

LIST OF TABLES

| | |
|--|----|
| Table 1: Vegetation Communities and Land Cover Types Occurring within the Biological Study Area and Impacts..... | 14 |
| Table 2: Plant Species Observed in the Biological Study Area | 16 |
| Table 3: Wildlife Species Observed in the BSA | 21 |
| Table 4: Historic Soil Units Occurring within the Biological Survey Area..... | 23 |
| Table 5: Known and Potential Occurrences of Special Status Plant Taxa within the BSA..... | 25 |
| Table 6: Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area..... | 34 |

LIST OF APPENDICES

APPENDIX A: FIGURES

APPENDIX B: PHOTOGRAPHIC LOG



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 |
| CNDDDB | 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 <i>The Manual for California Vegetation</i> |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

2.0 Methodologies

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.



2.0 Methodologies

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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

2.0 Methodologies

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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

2.0 Methodologies

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

3.0 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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

3.0 Regulatory Environment

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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

3.0 Regulatory Environment

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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

3.0 Regulatory Environment

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.



3.0 Regulatory Environment

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.*



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

3.0 Regulatory Environment

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.



3.0 Regulatory Environment

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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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.



4.0 Existing Conditions

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 setaceum*). 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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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 ladythumb (*Persicaria maculosa*).

California buckwheat scrub; *Eriogonum fasciculatum* Shrubland Alliance

Vegetation characteristic of the *Eriogonum fasciculatum* 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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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 |
| <i>Malosma laurina</i> | laurel sumac |
| <i>Schinus terebinthifolia</i> | Brazilian pepper tree* |
| APIACEAE | CARROT FAMILY |
| <i>Apium graveolens</i> | garden celery* |
| <i>Conium maculatum</i> | poison hemlock* |
| ASTERACEAE | ASTER FAMILY |
| <i>Artemisia californica</i> | California sagebrush |
| <i>Baccharis pilularis</i> | coyote brush |
| <i>Baccharis salicifolia</i> | mulefat |
| <i>Centaurea solstitialis</i> | star thistle* |
| <i>Encelia californica</i> | bush sunflower |
| <i>Erigeron canadensis</i> | horseweed |
| <i>Heterotheca grandiflora</i> | telegraph weed |
| <i>Isocoma menziesii</i> | Menzies' goldenbush |
| <i>Lactuca serriola</i> | prickly lettuce* |
| <i>Malacothrix saxatilis</i> | cliff aster |
| <i>Pseudognaphalium californicum</i> | California cudweed |
| <i>Salvia apiana</i> | white sage |
| <i>Sonchus oleraceus</i> | common sow thistle* |
| <i>Xanthium strumarium</i> | rough cocklebur |
| BRASSICACEAE | CABBAGE FAMILY |
| <i>Brassica nigra</i> | black mustard* |
| <i>Hirschfeldia incana</i> | short podded mustard* |
| EUPHORBIACEAE | SPURGE FAMILY |
| <i>Ricinus communis</i> | castor bean* |
| FABACEAE | PEA FAMILY |
| <i>Acacia redolens</i> | bank catclaw |
| <i>Acmispon glaber</i> | deerweed |
| <i>Melilotus officinalis</i> | yellow sweetclover* |
| <i>Parkinsonia aculeata</i> | retama* |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

4.0 Existing Conditions

| | |
|------------------------------------|-------------------------------|
| <i>Vachellia schaffneri</i> | Schaffner's acacia* |
| BORAGINACEAE | BORAGE FAMILY |
| <i>Eriodictyon crassifolium</i> | thick leaved yerba santa |
| MORACEAE | FIG FAMILY |
| <i>Ficus pumila</i> | climbing fig* |
| <i>Ficus carica</i> | common fig* |
| <i>Morus alba</i> | white mulberry* |
| ONAGRACEAE | PRIMROSE FAMILY |
| <i>Ludwigia peploides</i> | floating water primrose* |
| POLYGONACEAE | BUCKWHEAT FAMILY |
| <i>Eriogonum fasciculatum</i> | California buckwheat |
| <i>Persicaria maculosa</i> | spotted ladythumb* |
| SALICACEAE | WILLOW FAMILY |
| <i>Salix lasiolepis</i> | red willow |
| SOLANACEAE | POTATO FAMILY |
| <i>Nicotiana glauca</i> | tree tobacco* |
| ARECACEAE | PALM FAMILY |
| <i>Washingtonia robusta</i> | Mexican fan palm* |
| CYPERACEAE | SEDGE FAMILY |
| <i>Cyperus eragrostis</i> | tall flat sedge* |
| <i>Schoenoplectus californicus</i> | California bulrush |
| <i>Schoenoplectus americanus</i> | American three-square bulrush |
| POACEAE | GRASS FAMILY |
| <i>Arundo donax</i> | giant reed* |
| <i>Pennisetum setaceum</i> | crimson fountaingrass* |
| <i>Polypogon monspeliensis</i> | rabbitsfoot grass* |
| TYPHACEAE | CATTAIL FAMILY |
| <i>Typha</i> 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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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 (*Megasceryle alcyon*), osprey (*Pandion*



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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 vociferus*), 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 (*Psaltiriparus 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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

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 | | |
| <i>Apis mellifera</i> | honeybee | non-native |
| <i>Gerridae family*</i> | water strider | native |
| <i>Libellula saturate*</i> | flame skimmer dragonfly | native |
| <i>Phoebis sennae*</i> | cloudless sulphur butterfly | native |
| <i>Pieris rapae*</i> | cabbage white butterfly | non-native |
| <i>Pogonomyrmex sp.</i> | carpenter ant | native |
| REPTILES | | |
| <i>Sceleporous occidentalis*</i> | western fence lizard | native |
| <i>Uta stansburiana</i> | common side-blotched lizard | native |
| BIRDS | | |
| <i>Accipiter cooperii</i> | Cooper's hawk | native |
| <i>Anas platyrhynchos</i> | mallard duck | native |
| <i>Ardea alba</i> | great egret | native |
| <i>Ardea herodias</i> | great blue heron | native |
| <i>Branta canadensis</i> | Canada goose | native |
| <i>Calypte anna*</i> | Anna's hummingbird | native |
| <i>Catharus guttatus*</i> | hermit thrush | native |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

4.0 Existing Conditions

| | | |
|-------------------------------------|-------------------------------|------------|
| <i>Charadrius vociferus</i> * | killdeer | native |
| <i>Columba livia</i> * | rock pigeon | non-native |
| <i>Corvus brachyrhynchos</i> | American crow | native |
| <i>Corvus corax</i> * | common raven | native |
| <i>Egretta thula</i> | snowy egret | native |
| <i>Fulica americana</i> | American coot | native |
| <i>Geothlypis trichas</i> * | common yellowthroat | native |
| <i>Haemorhous mexicanus</i> * | house finch | native |
| <i>Himantopus mexicanus</i> | black-necked stilt | native |
| <i>Hirundo rustica</i> * | barn swallow | native |
| <i>Larus californicus</i> * | California gull | native |
| <i>Lonchura punctulate</i> * | nutmeg mannikin | non-native |
| <i>Lophodytes cucullatus</i> | hooded merganser | native |
| <i>Megaceryle alcyon</i> | belted kingfisher | native |
| <i>Mesospiza melodia</i> * | song sparrow | native |
| <i>Mimus polyglottus</i> | northern mockingbird | native |
| <i>Nycticorax nycticorax</i> | black-crowned night heron | native |
| <i>Pandion haliaetus</i> | osprey | native |
| <i>Passer domesticus</i> * | house sparrow | non-native |
| <i>Petrochelidon pyrrhonota</i> * | cliff swallow | native |
| <i>Sayornis nigricans</i> | black phoebe | native |
| <i>Selasphorus sasin</i> * | Allen's hummingbird | native |
| <i>Setophaga coronate</i> * | yellow-rumped warbler | native |
| <i>Setophaga petechia</i> * | yellow warbler | native |
| <i>Spinus psaltria</i> * | lesser goldfinch | native |
| <i>Sturnus vulgaris</i> * | European starling | non-native |
| <i>Stelgidopteryx serripennis</i> * | northern rough-winged swallow | native |
| <i>Zenaidura macroura</i> * | mourning dove | native |
| MAMMALS | | |
| <i>Otospermophilus beecheyi</i> * | ground squirrel | native |
| <i>Sylvilagus sp.</i> * | cottontail rabbit | native |

* Denotes species observed on May 26, 2022



4.0 Existing Conditions

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

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).



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

Record searches of the CNDDDB, 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 |
|--|-----------------------------|---|-----------------|---|
| <i>Arenaria paludicola</i> 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|--|------------------------|--|-----------------|---|
| <i>Astragalus brauntonii</i> 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. |
| <i>Astragalus tener</i> var. <i>titi</i> coastal dunes milk-vetch | FE, SE 1B.1, S1 | Coastal bluff scrub (sandy), coastal dunes, and coastal prairie (mesic). Often in vernal 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. |
| <i>Atriplex parishii</i> Parish's brittle scale | 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. |
| <i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's salt scale | 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-------------------------|---|-----------------|---|
| <i>Berberis nevinii</i> 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. |
| <i>Calochortus clavatus</i> var. <i>gracilis</i> 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. |
| <i>Calochortus plummerae</i> 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. |
| <i>Calystegia felix</i> 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|--|-------------------------|--|---------------------|--|
| <i>Centromadia parryi</i> ssp. <i>australis</i> 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. |
| <i>Centromadia pungens</i> ssp. <i>laevis</i> 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. |
| <i>Chorizanthe parryi</i> var. <i>fernandina</i> 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. |
| <i>Chorizanthe parryi</i> var. <i>parryi</i> 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-------------------------|--|---------------------------|--|
| <i>Dodechahema leptoceras</i> slender-horned spineflower | FE, SE, 1B.1, S2 | Annual. Chaparral, 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. |
| <i>Dudleya multicaulis</i> 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. |
| <i>Helianthus nuttallii</i> ssp. <i>parishii</i> 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 |
| <i>Horkelia cuneata</i> var. <i>puberula</i> 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. |
| <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-------------------------|--|---|--|
| <i>Lepidium virginicum</i> var. <i>robinsonii</i> 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. |
| <i>Malacothamnus davidsonii</i> 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. |
| <i>Nasturtium gambelii</i> 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. |
| <i>Navarretia prostrata</i> 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. |
| <i>Pseudognaphalium leucocephalum</i> 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|--|-----------------|---|------------------------------|---|
| <i>Quercus dumosa</i> 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. |
| <i>Ribes divaricatum</i> <i>va. Parishii</i> 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. |
| <i>Sidalcea neomexicana</i> 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. |
| <i>Spermolepis lateriflora</i> 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. |



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Species | Status | Habitat and Distribution | Blooming Period | Potential to Occur |
|---|-----------------|--|-----------------|---|
| <i>Symphyotrichum defoliatum</i> San Bernardino aster | 1B.2, S2 | Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernal 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. |
| <i>Symphyotrichum greatae</i> 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. |
| <i>Thelypteris puberula</i> var. <i>sonorensis</i> 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



5.0 Special-Status Biological Resources

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 CNDDDB 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.



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

Table 6: Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------|-------------------|----------|--|---|----------------------|
| Scientific Name | Common Name | | | | |
| INVERTEBRATES | | | | | |
| <i>Bombus crotchii</i> | Crotch bumble bee | SC, S1S2 | Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> . | 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 (<i>Eriogonum fasciculatum</i>), a food plant for the species occurs within the BSA, but there is none within the Project Area. | High |
| <i>Danaus plexippus</i> | 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 <i>Asclepias</i> . | No suitable habitat for food or roosting occurs within the BSA. | Not Likely to Occur |
| <i>Eugnosta busckana</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------------|--------------------------------------|-----------------------|---|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Glyptostoma gabrielense</i> | 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 |
| <i>Gonidea angulata</i> | 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 | | | | | |
| <i>Rana muscosa</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-----------------------|-------------------|----------------|--|--|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Spea hammondi</i> | 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 |
| <i>Taricha torosa</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-------------------------------------|------------------------------------|---------|---|--|----------------------|
| Scientific Name | Common Name | | | | |
| REPTILES | | | | | |
| <i>Anniella stebbinsi</i> | 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 |
| <i>Arizona elegans occidentalis</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-------------------------------|---------------------|------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Emys marmorata</i> | 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 CNDDDB 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 |
| <i>Phrynosoma blainvillii</i> | 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 | | | | | |
| <i>Accipiter cooperii</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|----------------------------|----------------------|---------------|---|---|--|
| Scientific Name | Common Name | | | | |
| <i>Accipiter striatus</i> | 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 |
| <i>Agelaius phoeniceus</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-------------------------------------|--|---------------------|---|---|---|
| Scientific Name | Common Name | | | | |
| <i>Aimophila ruficeps canescens</i> | 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 |
| <i>Athene cunicularia</i> | 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 |
| <i>Ardea alba</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------|---------------------|--------------------|--|--|--|
| Scientific Name | Common Name | | | | |
| <i>Ardea herodias</i> | 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 |
| <i>Buteo swainsoni</i> | 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 |
| <i>Calypte costae</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-----------------------------------|-------------------|-----------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Chaetura vauxi</i> | 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 de Los Angeles State Park approximately 0.25 mile east of the BSA in 2013 and 2022 respectively. | Low for Nesting/Low for Foraging |
| <i>Coturnicops noveboracensis</i> | 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 |
| <i>Elanus leucurus</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|-----------------------------------|--------------------------------|-------------------|--|--|--|
| Scientific Name | Common Name | | | | |
| <i>Empidonax traillii extimus</i> | 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. 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 |
| <i>Egretta thula</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--------------------------------|---------------------------|-----------------|---|--|--|
| Scientific Name | Common Name | | | | |
| <i>Falco peregrinus anatum</i> | 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 |
| <i>Larus californicus</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------------|---------------------------|---------------|---|---|--|
| Scientific Name | Common Name | | | | |
| <i>Nannopterum auritum</i> | 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 CNDDDB 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 |
| <i>Nycticorax nycticorax</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|----------------------------------|------------------------|------------------|---|--|--|
| Scientific Name | Common Name | | | | |
| <i>Pandion haliaetus</i> | 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 |
| <i>Pelecanus erythrorhynchos</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|---|--------------------------------|----------------------------|---|--|---|
| Scientific Name | Common Name | | | | |
| <i>Plegadis chihi</i> | 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 |
| <i>Polioptila californica californica</i> | 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 (<i>Artemisia californica</i>) 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------------|--------------------|-------------------|---|---|---|
| Scientific Name | Common Name | | | | |
| <i>Riparia riparia</i> | 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 |
| <i>Setophaga petechia</i> | 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 |
| <i>Vireo bellii pusillus</i> | 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, <i>Baccharis</i> , 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|------------------------------------|---------------------|-----------|---|---|----------------------|
| Scientific Name | Common Name | | | | |
| MAMMALS | | | | | |
| <i>Antrozous pallidus</i> | 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 from 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 |
| <i>Eumops perotis californicus</i> | 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 |
| <i>Lasionycteris noctivagans</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--|--------------------------|------------------|---|---|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Lasiurus cinereus</i> | 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 |
| <i>Lasiurus xanthinus</i> | 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 |
| <i>Microtus californicus stephensi</i> | 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 |
| <i>Neotoma lepida intermedia</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| Taxa | | Status | Habitat Type | Comments | Occurrence Potential |
|--|----------------------------|----------------|--|--|----------------------------|
| Scientific Name | Common Name | | | | |
| <i>Nyctinomops macrotis</i> | 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 |
| <i>Onychomys torridus ramona</i> | 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 |
| <i>Perognathus longimembris brevinasus</i> | 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 |
| <i>Taxidea taxus</i> | 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 |



BOWTIE DEMONSTRATION PROJECT
Biological Resources Technical Report

5.0 Special-Status Biological Resources

| 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
 CNDDDB =California Natural Diversity Database



5.0 Special-Status Biological Resources

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).



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

5.0 Special-Status Biological Resources

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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

6.0 References

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.



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

6.0 References

- _____. 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



BOWTIE DEMONSTRATION PROJECT

Biological Resources Technical Report

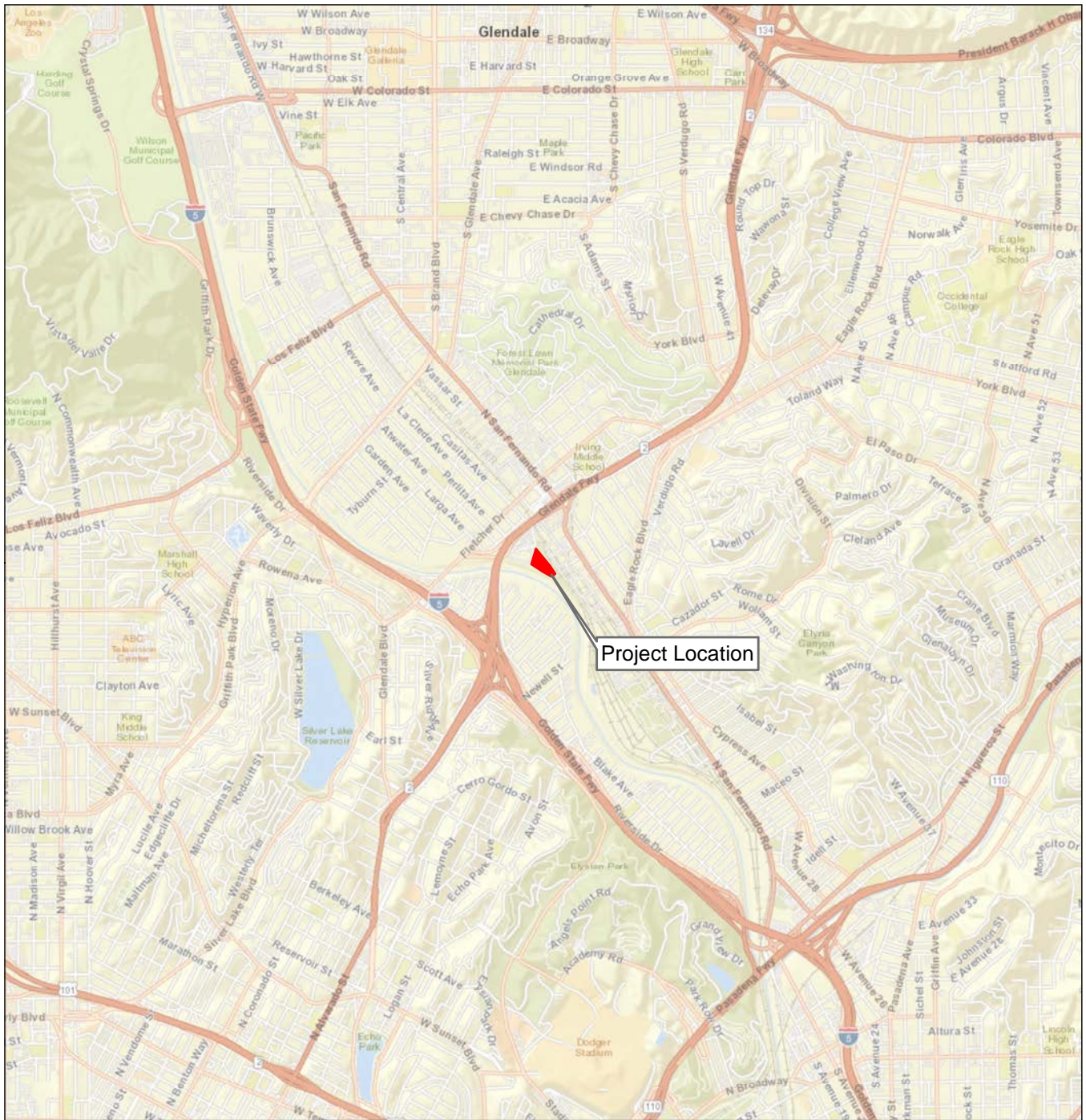
6.0 References

- 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 River 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





 Project Location

0 2,000 4,000 Feet
(At original document size of 8.5x11)
1:48,000



Project Location Prepared by DL on 2022-06-22
APN: 5442-002-914, 5442-002-825 TR by SET on 2022-06-22
Los Angeles County, CA 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



- Biological Survey Area Project
- Site
- Proposed Location for Spoil Piles

0 100 200 Feet
(At original document size of 8.5x11)
1:2,400



Project Location: Prepared by DL on 2022-06-22
APN: 5442-002-914, 5442-002-825 TR by SET on 2022-06-22
Los Angeles County, CA IR by JV on 2022-06-22

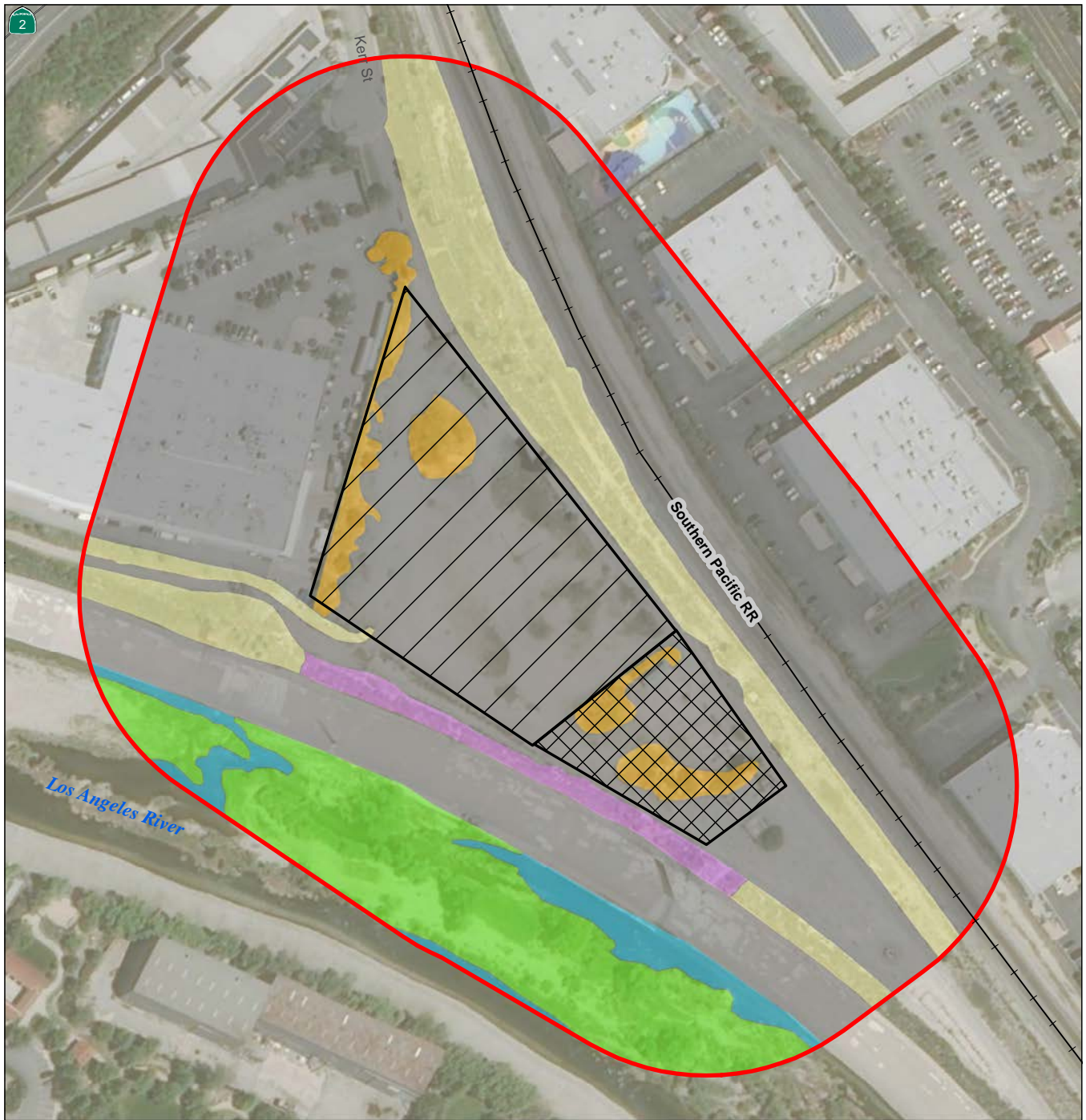
Client/Project: 184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

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



- 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

0 100 200 Feet
(At original document size of 8.5x11)
1:2,400



Project Location: Los Angeles County, CA
APN: 5442-002-914, 5442-002-825
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.
3

Title
Vegetation Communities and Land Cover Types



- Biological Survey Area
- Project Site
- Proposed Location for Spoil Piles
- Aquatic Feature

0 100 200 Feet
(At original document size of 8.5x11)
1:2,400



Project Location: Los Angeles County, CA
APN: 5442-002-914, 5442-002-825
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.
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



- 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

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

0 100 200 Feet
(At original document size of 8.5x11)
1:2,400

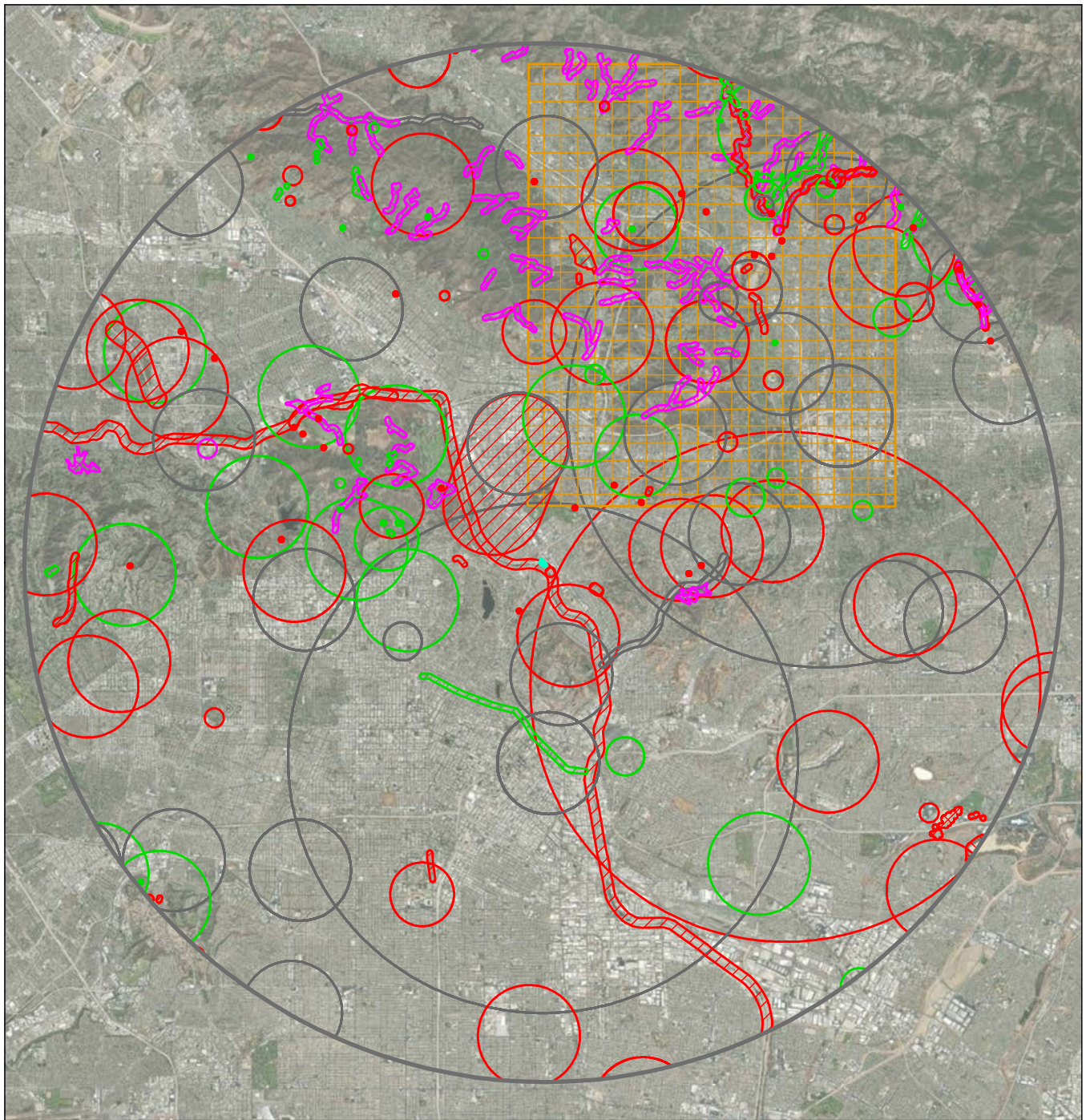


Project Location: Prepared by DL on 2022-06-22
APN: 5442-002-914, 5442-002-825 TR by SET on 2022-06-22
Los Angeles County, CA IR by JV on 2022-06-22

Client/Project: 184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
5

Title
Historic Soils



- | | |
|--|--|
| Project Location | Animal (circular) |
| 10 Mile Search Radius | Terrestrial Comm. (specific) |
| CNDBB | Terrestrial Comm. (circular) |
| Plant (80m) | Multiple (non-specific) |
| Plant (specific) | Multiple (circular) |
| Plant (non-specific) | Sensitive EO's (Commercial only) |
| Plant (circular) | |
| Animal (80m) | |
| Animal (specific) | |
| Animal (non-specific) | |

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDBB 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

0 1.5 3 Miles
(At original document size of 8.5x11)
1:190,080



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

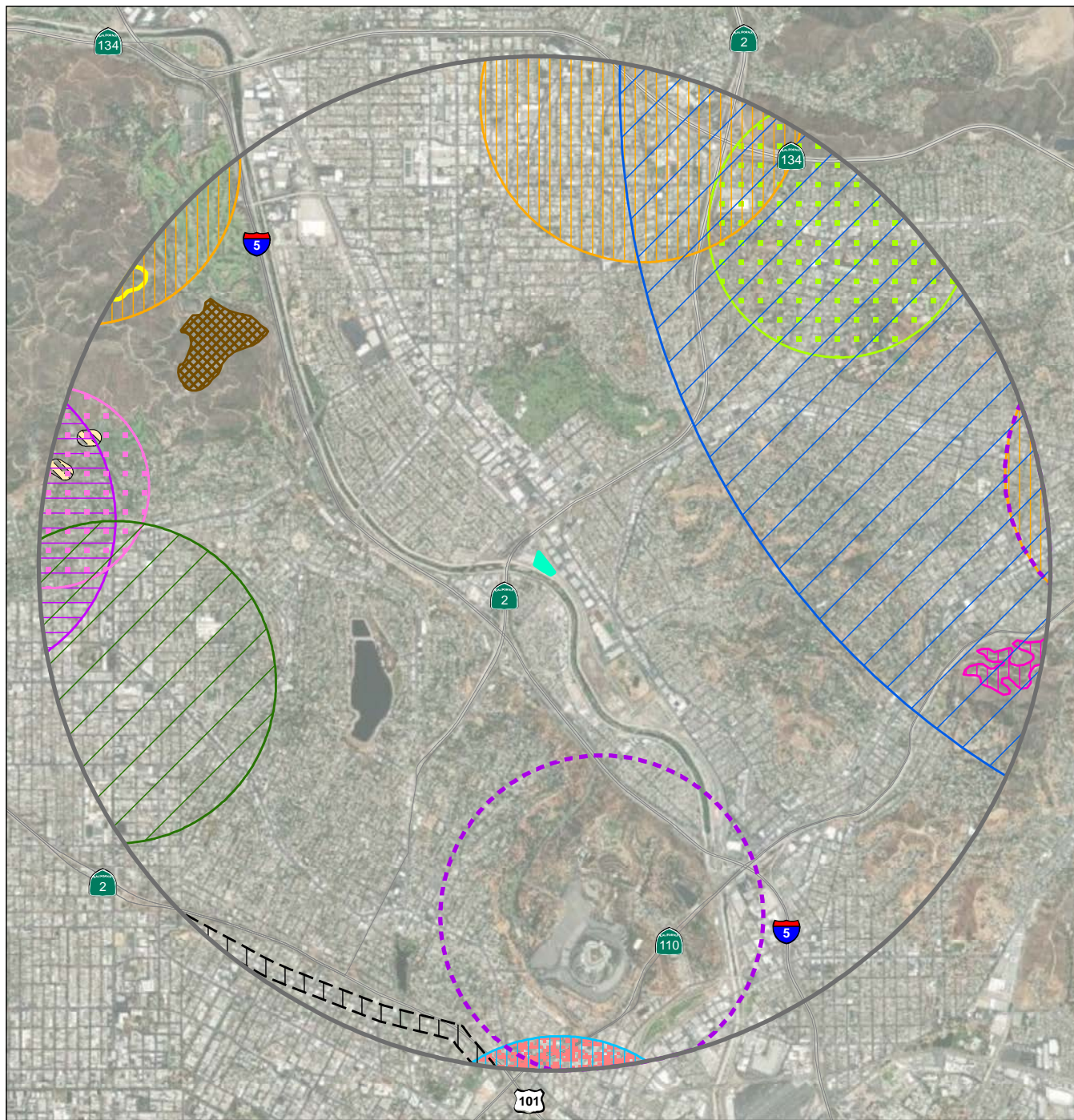
Client/Project
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

184031605

Figure No.

6

Title
10 Mile CNDBB Results



- 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



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
184031605

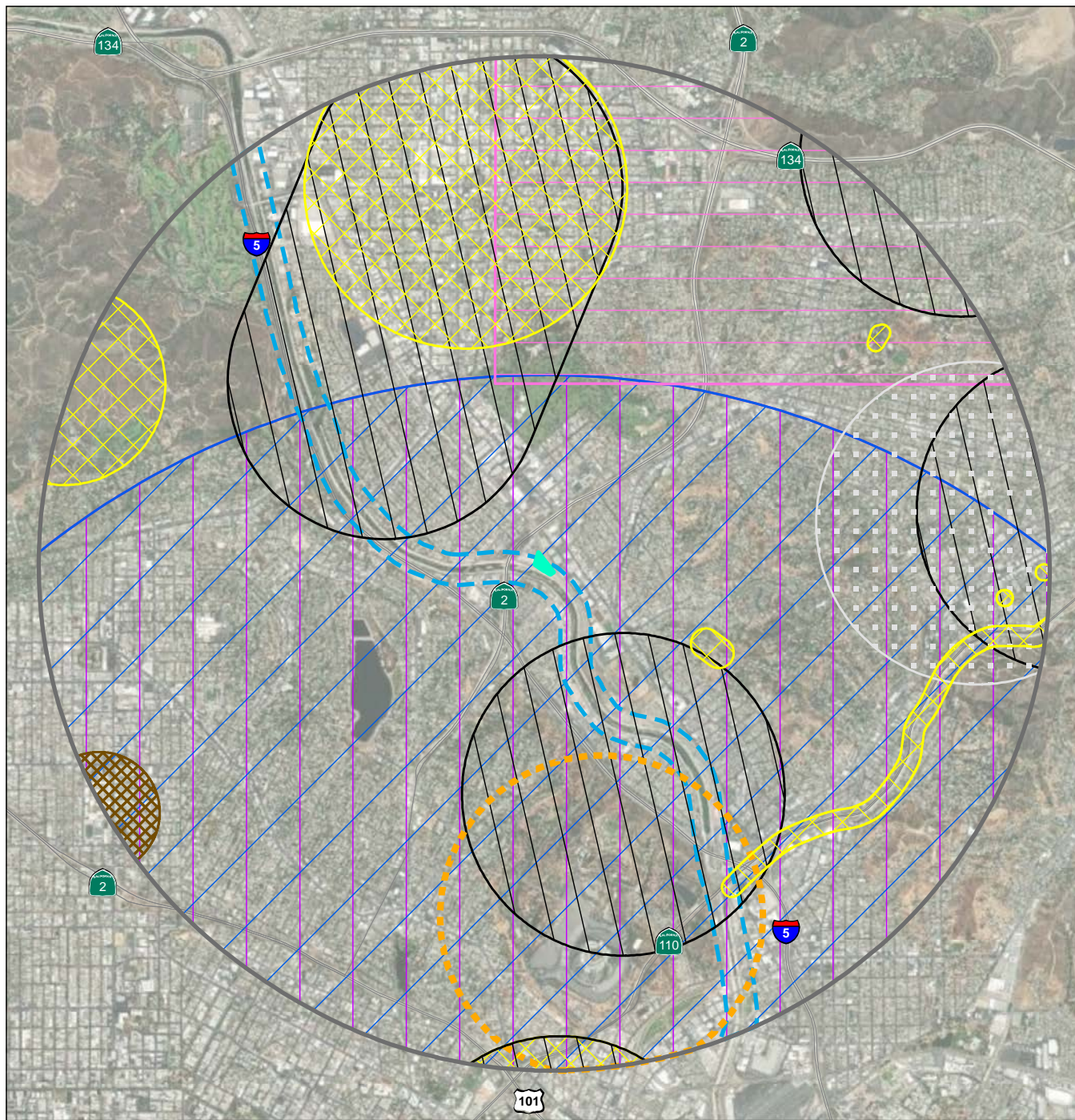
Client/Project
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

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



- 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



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

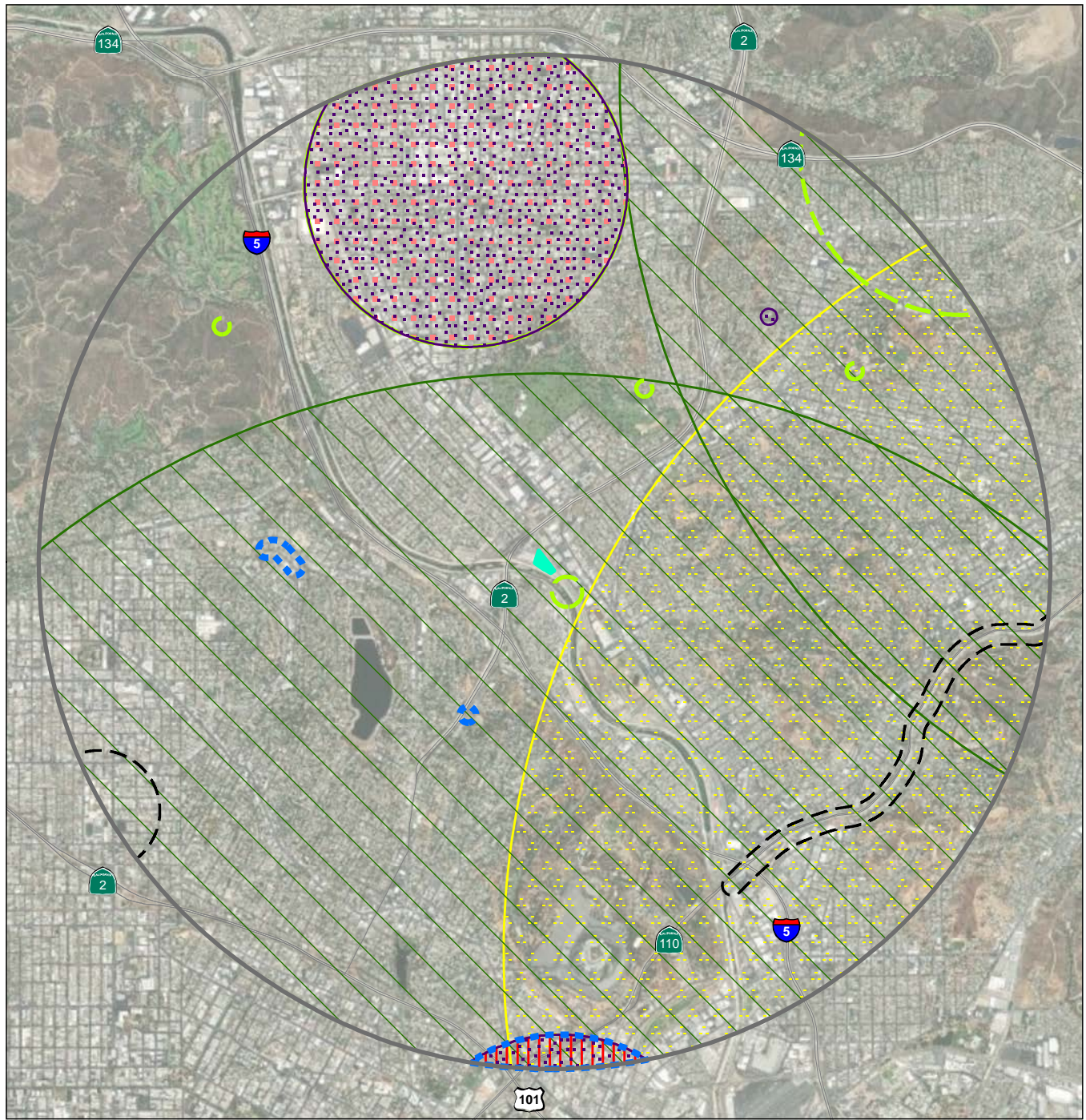
184031605

Figure No.
6b

Title
3 Mile CNDB Results - Wildlife

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDB 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



- Project Location
- 3 Mile Search Radius
- Crotch bumble bee
- southwestern willow flycatcher
- Wildlife Cont.**
- western mastiff bat
- western yellow bat
- hoary bat
- western spadefoot
- bank swallow
- big free-tailed bat

0 2,500 5,000 Feet
(At original document size of 8.5x11)
1:60,000



Project Location: Prepared by DL on 2022-06-22
APN: 5442-002-914, 5442-002-825 TR by SET on 2022-06-22
Los Angeles County, CA IR by JV on 2022-06-22

Client/Project: 184031605
Nature Conservancy
Bowtie Parcel
Biological Resources Technical Report

Figure No.
6C





Title
3 Mile CNDDDB Results - Wildlife



Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2022. CNDDDB 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

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: Disturbed/developed area within Project Area | | | |
| Photograph ID: 2 |  | | |
| Photo Location: Bowtie Parcel, Los Angeles | | | |
| Direction: N | | | |
| Survey Date: 5/26/2022 | | | |
| Comments: Disturbed/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 |  <p>☀ 118°SE (T) ● 34°6'32"N, 118°14'46"W ±13ft ▲ 376ft</p>  <p>26 May 2022, 11:08:17</p> | | |
| Photo Location: Bowtie Parcel, Los Angeles | | | |
| Direction: SE | | | |
| Survey Date: 5/26/2022 | | | |
| Comments: Disturbed/Developed area within Project Area | | | |
| Photograph ID: 4 |  <p>☀ 150°SE (T) ● 34°6'30"N, 118°14'46"W ±13ft ▲ 350ft</p>  <p>26 May 2022, 11:09:37</p> | | |
| 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 Angeles 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



**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

Cultural Resources Survey Report for The Nature Conservancy Bowtie Demonstration Wetlands Project

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:

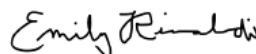


Signature

Dean Reed, MPS CHRM - Archaeologist

Printed Name

Prepared by:

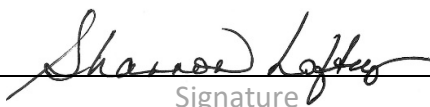


Signature

Emily Rinaldi, MS HP – Architectural Historian

Printed Name

Reviewed and
approved by:



Signature

Shannon Loftus, MA HP, RPA
Principal-Cultural Resources Lead

Printed Name



Table of Contents

| | | |
|----------|---|-----------|
| 1 | PROJECT LOCATION AND DESCRIPTION..... | 1 |
| 1.1 | Area of Potential Effect..... | 1 |
| 2 | REGULATORY SETTING..... | 2 |
| 2.1 | Federal Regulatory Setting..... | 2 |
| 2.1.1 | Antiquities Act of 1906 (16 USC § 431 et seq)..... | 2 |
| 2.1.2 | Historic Sites Act of 1935 (PI 74-292; 49 Stat. 666; 16 USC 461-467)..... | 2 |
| 2.1.3 | National Historic Preservation Act of 1966 (as amended) | 2 |
| 2.1.4 | National Environmental Policy Act of 1969 | 3 |
| 2.1.5 | Archaeological and Historic Preservation Act of 1974 (54 USC §312501 - 312503)..... | 3 |
| 2.1.6 | American Indian Religious Freedom Act of 1978..... | 4 |
| 2.1.7 | Archaeological Resources Protection Act of 1979..... | 4 |
| 2.1.8 | Native American Graves Protection and Repatriation Act of 1990 | 4 |
| 2.1.9 | Executive Order No. 11593 | 4 |
| 2.1.10 | Executive Order No. 13007 | 5 |
| 2.2 | State of California Regulatory Setting | 5 |
| 2.2.1 | California Environmental Quality Act..... | 5 |
| 2.2.2 | State of California Public Resources Code | 6 |
| 2.2.3 | State of California Health and Safety Code | 7 |
| 2.3 | Local Regulatory Setting | 7 |
| 2.3.1 | City of Los Angeles Historic Preservation Ordinance..... | 7 |
| 3 | SETTING | 11 |
| 3.1 | Environmental Setting | 11 |
| 3.2 | Cultural Setting | 12 |
| 3.2.1 | Prehistoric Overview..... | 13 |
| 3.2.1 | Ethnographic Overview | 14 |
| 3.2.1.1 | Gabrielino/Tongva | 14 |
| 3.2.2 | Historic-era Overview | 14 |
| 3.2.2.1 | Historic Overview of the Taylor Yard..... | 16 |
| 3.3 | Records Search Methods..... | 18 |
| 3.4 | Records Search Results..... | 18 |
| 3.5 | Historical Map Review | 21 |
| 4 | FIELD SURVEY | 23 |
| 4.1 | Survey Methods..... | 23 |
| 4.2 | Survey Results | 24 |
| 5 | SUMMARY AND RECOMMENDATIONS..... | 25 |
| 6 | REFERENCES CITED..... | 27 |

LIST OF TABLES

| | |
|--|----|
| Table 1. Previously conducted investigations | 18 |
| Table 2. Previously recorded resources | 20 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1. Project location within Bowtie Parcel, and 0.5-mile Records Search Area (Study Area) | 9 |
| Figure 2. Project Area Aerial Image..... | 10 |
| Figure 3. Project Area Detail, Aerial Image..... | 11 |



Cultural Resources Survey Report for The Nature Conservancy Bowtie Demonstration Wetlands Project

Figure 3. 1952 historical aerial photograph (historicaerials.com, accessed December 13, 2022) 22
Figure 4. 1964 historical aerial photograph (UCSB, accessed August 31, 2022) 23

LIST OF APPENDICES

APPENDIX A: PHOTOGRAPHS

APPENDIX B (CONFIDENTIAL): DPR 523 SITE FORMS



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 and 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-annum (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 specifies 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 (PI 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:



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

- 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 an 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 of 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 26771), 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);



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

- 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 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.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

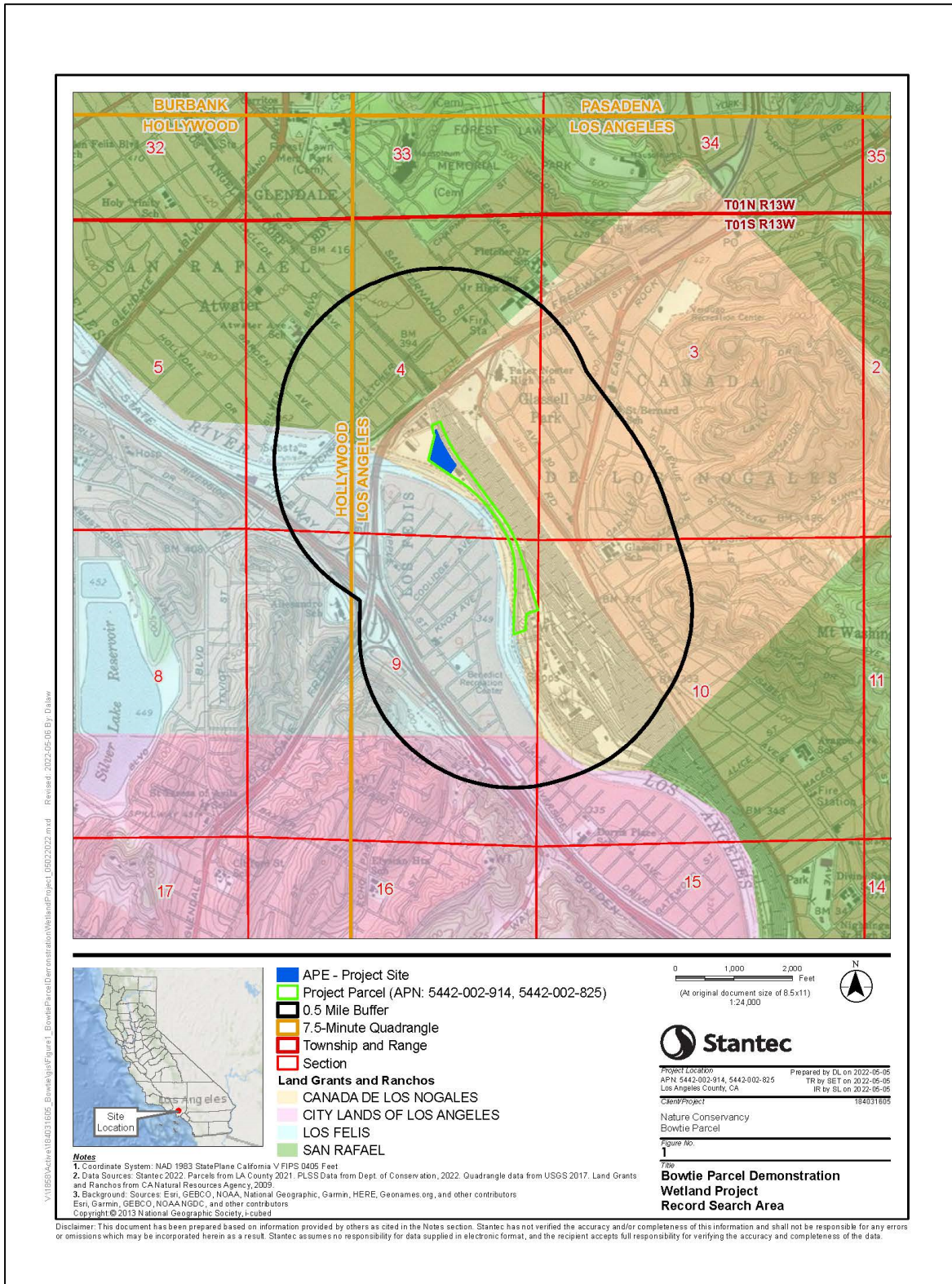


Figure 1. Project location within Bowtie Parcel, and 0.5-mile Records Search Area (Study Area)



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project



Figure 2. Project Area Aerial Image



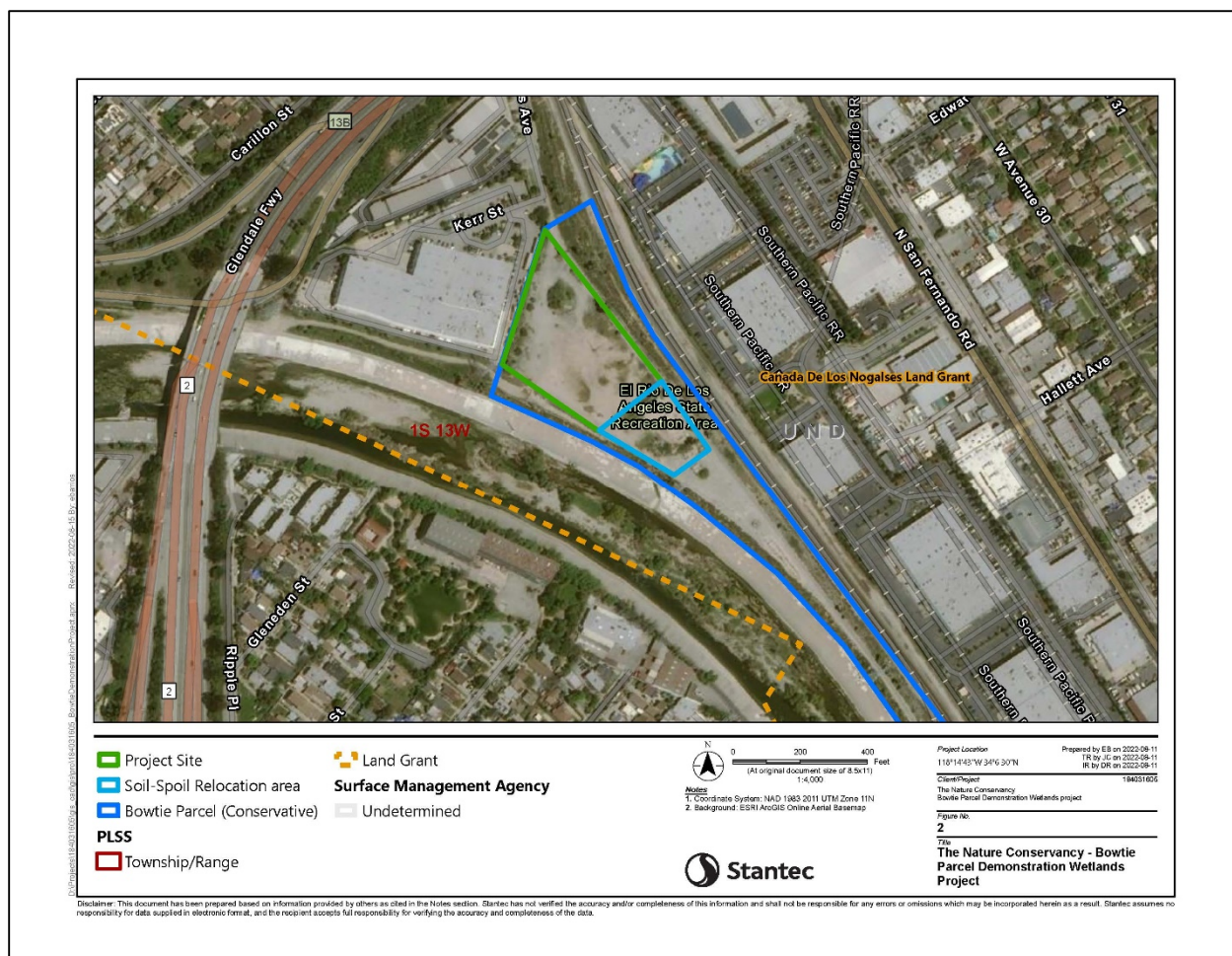


Figure 3. Project Area Detail, Aerial Image

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

Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

would have supported riparian zone flora. Some of the native plant species would have included Arroyo Willows (*Salix lasiolepis*), Cattails (*Typha dominguis*), 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



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

1579. Sebastian Vizcaino explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978). Vizcaino 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 military 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).



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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 “consists²” (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](https://www.american-rails.com/rail-conductor-hq) Accessed September 1, 2022.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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 |



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

| 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 |



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

| 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 Angeles 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.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

All cultural resources identified were determined to be associated with the historic Taylor Yard, thus considered to be components of a single site. Stantec completed 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 and 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 do not embody any distinctive characteristics of a type, period, or method of construction, that represent the work of a master engineer/builder. Therefore, the site 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.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands 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 \(american-rails.com\)](http://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.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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 \(lapl.org\)](https://www.proquest.com/sanborn-maps/map-of-los-angeles-1906-jan-1951-vol-11-1919-sept-1950-sheet-1181/docview/244444444). 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 \(lapl.org\)](https://www.proquest.com/sanborn-maps/map-of-los-angeles-1906-jan-1951-vol-40-1930-jan-1951-sheet-0c/docview/244444444). 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 \(archive.org\)](https://www.newtabarchive.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

Turetlein, Theodore E.

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

University of California Santa Barbara (UCSB)



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project

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



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project



Project area overview, from the northeast corner; view southeast.



Project area overview, from the southeast corner; view northwest.



Cultural Resources Survey Report for the Nature Conservancy Bowtie Demonstration Wetlands Project



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



**FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE
DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA**

The conclusions in the Report 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 document was published 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 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 Alyssa Bell
(signature)
Alyssa Bell, Ph.D.; Principal Paleontologist

Reviewed by [Signature]
(signature)
Geraldine Aron, M.S.; Business Center Practice Lead

Approved by Michael P. Weber
(signature)
Michael Weber, Senior Principal Scientist



Table of Contents

| | |
|---|------------|
| EXECUTIVE SUMMARY | VII |
| ABBREVIATIONS | IX |
| GLOSSARY | X |
| 1.0 INTRODUCTION..... | 1 |
| 1.1 PROJECT DESCRIPTION | 1 |
| 1.2 PROJECT LOCATION | 1 |
| 1.3 PALEONTOLOGICAL RESOURCES | 4 |
| 2.0 REGULATORY FRAMEWORK..... | 5 |
| 2.1 STATE OF CALIFORNIA..... | 5 |
| 2.1.1 California Environmental Quality Act | 5 |
| 2.1.2 Public Resources Code..... | 6 |
| 2.2 LOCAL REGULATIONS | 6 |
| 2.2.1 City of Los Angeles | 6 |
| 3.0 PROFESSIONAL STANDARDS..... | 7 |
| 4.0 GEOLOGIC SETTING..... | 7 |
| 5.0 METHODOLOGY..... | 7 |
| 5.1 RECORDS SEARCH..... | 8 |
| 5.2 SCIENTIFIC LITERATURE REVIEW..... | 8 |
| 5.3 GEOTECHNICAL ASSESSMENT | 8 |
| 5.4 PALEONTOLOGICAL RESOURCES ASSESSMENT | 9 |
| 5.5 PALEONTOLOGICAL RESOURCES IMPACTS ASSESSMENT | 9 |
| 6.0 RESULTS | 10 |
| 6.1 PROJECT AREA GEOLOGY AND PALEONTOLOGY | 11 |
| 6.2 PALEONTOLOGICAL RESOURCES IMPACTS ASSESSMENT | 15 |
| 7.0 RECOMMENDATIONS AND MANAGEMENT CONSIDERATIONS..... | 15 |
| 8.0 REFERENCES..... | 17 |

LIST OF TABLES

| | |
|---|----|
| Table 1 Summary of the records search from the LACM..... | 14 |
| Table 2 Paleontological potential of geologic units within the Project area | 14 |

LIST OF FIGURES

| | |
|-----------------------------|---|
| Figure 1. Project area..... | 3 |
|-----------------------------|---|



**FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY
BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA**

| | |
|---|----|
| Figure 2. Geologic map of Project area..... | 12 |
|---|----|

LIST OF APPENDICES

| | |
|--|----------|
| APPENDIX A, NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY RECORDS SEARCH | 1 |
|--|----------|



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



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

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.



**FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY
BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA**

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 |



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

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. |



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

Introduction

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,



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

Introduction

Range 13 West, as depicted on the Los Angeles, California USGS 7.5-minute series topographic quadrangle, on lands owned by California State Parks.



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

Introduction

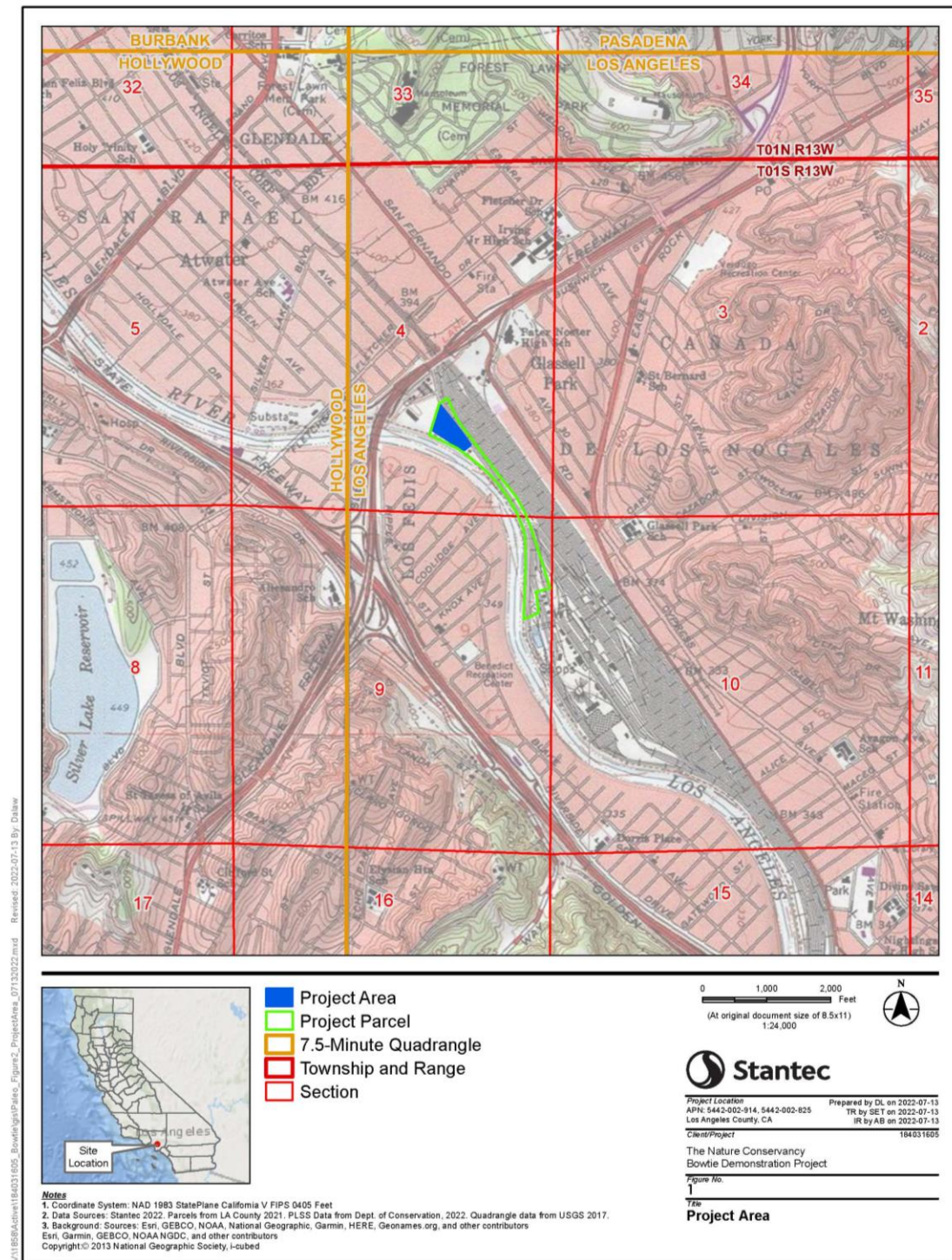


Figure 1. Project area



Introduction

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 Daich 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.



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

Regulatory Framework

- 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



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

Regulatory Framework

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



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

Methodology

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 volcanoclastic formations (e. g., ashes or tephra), 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.



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

RESULTS

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.



RESULTS

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).



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

RESULTS

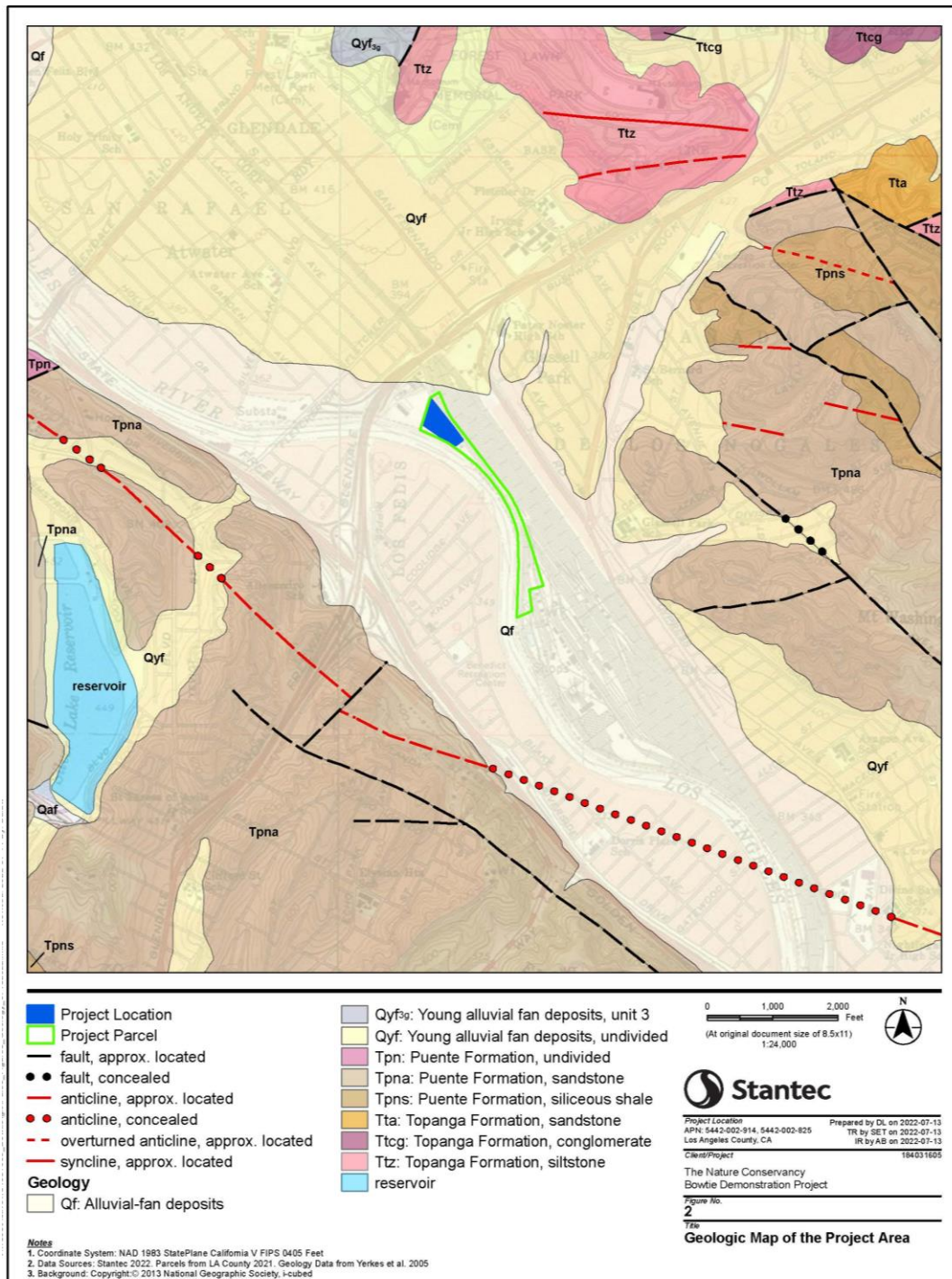


Figure 2. Geologic map of Project area



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

RESULTS

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-grained 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.



**FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY
BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA**

RESULTS

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 (<i>Mammuthus</i>), Bison (<i>Bison</i>) | Highland Park, approximately 1.8 miles from the Project area | 14 feet bgs |
| LACM VP 1023 | Unnamed formation | Pleistocene | Sabertooth cat (<i>Smilodon</i>), horse (<i>Equus</i>), deer (<i>Odocoileus</i>), turkey (<i>Meleagris</i>) | 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 (<i>Xyphocheilus</i>), smelt (<i>Bathylagus</i>), bristlemouth (<i>Cyclothone</i>), lanternfish (<i>Myctophidae</i>), drum family (<i>Sciaenidae</i>), mackerel/tuna/bonito family (<i>Scombridae</i>), croaker (<i>Genyonemus</i>), viperfish (<i>Chauliodus</i>), porgies (<i>Plectrutes</i>), bonito (<i>Sarda</i>), drumfish (<i>Lompoquia</i>), perch-like fish (<i>Thyrsoches</i>), jack (<i>Decapterus</i>), rock bass (<i>Paralabrax</i>), argentine (<i>Argentina</i>); 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



recommendations and management considerations

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



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

recommendations and management considerations

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.



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

REFERENCES

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).



**FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY
BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA**

REFERENCES

- 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*



**FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY
BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA**

REFERENCES

- 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.



FINAL PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE NATURE CONSERVANCY BOWTIE DEMONSTRATION PROJECT, LOS ANGELES, CALIFORNIA

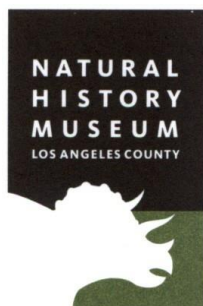
REFERENCES

- 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 (<i>Mysticeti</i>) | 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 (<i>Mammuthus</i>), Bison (<i>Bison</i>) | 14 feet bgs 31-32 m bgs (collected during excavations of the Humboldt Street Sewer Shaft) |
| LACM VP 7507 | Near intersection of San Fernando Rd. & Humbolt St. | Monterey Formation | Fish (<i>Thyrsoctes kriegeri</i>) | Unknown (excavations for storm |
| LACM VP 1023 | Workman & Alhambra Sts, Los Angeles | Unknown formation (Pleistocene) | Sabertooth cat (<i>Smilodon</i>), horse (<i>Equus</i>), deer (<i>Odocoileus</i>), turkey | |

| | | | | |
|--|--|--|---|----------------|
| | | | (<i>Meleagris</i>) | drains) |
| | | | Herring (<i>Xyne</i> , <i>Ganolytes</i>), | |
| | | | smelt (<i>Bathylagus</i>), | |
| | | | bristlemouth (<i>Cyclothone</i>), | |
| | | | lanternfish (Myctophidae), | |
| | | | drum family (Sciaenidae), | |
| | | | mackerel/tuna/bonito family | |
| | | | (Scombridae), croaker | |
| | | | (<i>Genyonemus</i>), viperfish | |
| | | | (<i>Chauliodus</i>), porgies | |
| | | | (<i>Plectrites</i>), bonito (<i>Sarda</i>), | |
| | | | drumfish (<i>Lompoquia</i>), | |
| | | | perch-like fish (<i>Thyrsoctes</i>), | |
| | | | jack (<i>Decapterus</i>), rock | |
| | | | bass (<i>Paralabrax</i>), | |
| | | | argentine (<i>Argentina</i>); | |
| | | | 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



**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

August 19, 2022

TABLE OF CONTENTS

| | | |
|-----|---|----|
| 1 | SUMMARY..... | 1 |
| 2 | INTRODUCTION | 2 |
| 2.1 | Removal Action Process..... | 2 |
| 2.2 | Site Description..... | 3 |
| 2.3 | Site Owner..... | 5 |
| 2.4 | Purpose of Removal Action | 5 |
| 3 | CONCEPTUAL SITE MODEL | 6 |
| 3.1 | Investigations..... | 6 |
| 3.2 | Findings | 7 |
| 3.3 | Human Health Risk Assessment | 9 |
| 4 | REMOVAL ACTION GOALS AND OBJECTIVES | 10 |
| 4.1 | Removal Action Objectives | 10 |
| 4.2 | Applicable or Relevant and Appropriate Requirements | 11 |
| 4.3 | Removal Goals | 11 |
| 5 | REMEDIAL ALTERNATIVE EVALUATION | 12 |
| 5.1 | Weston Identification and Analysis of Brownfield Cleanup Alternatives | 12 |
| 5.2 | Additional Removal Action Alternatives | 13 |
| 5.3 | Evaluation of Removal Action Alternatives | 14 |
| 5.4 | Recommended Removal Action Alternative..... | 15 |
| 6 | REMOVAL ACTION IMPLEMENTATION | 15 |
| 6.1 | Permitting and Site Preparation | 16 |
| 6.2 | Excavation Methodology | 16 |
| 6.3 | Control Measures/Environmental Quality Monitoring During Excavation..... | 16 |
| 7 | SAMPLING AND ANALYSIS PLAN | 17 |
| 7.1 | Confirmation Sampling of Excavated Areas | 17 |
| 7.2 | Profiling for Off-Site Disposal | 17 |
| 8 | OTHER PLANS | 17 |
| 9 | PUBLIC PARTICIPATION AND CEQA | 17 |
| 10 | REFERENCES | 18 |
| 11 | AFFIRMATION AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL | 19 |

TABLE OF CONTENTS, CONTINUED

ATTACHMENTS

FIGURES

APPENDICES

A – AERIAL PHOTOGRAPHS

B – CITADEL DATA GAP SAMPLING REPORT

C – LEIGHTON AND WESTON FIGURES AND DATA TABLES

COVER PHOTOGRAPH – LOS ANGELES RIVER AT THE TNC DEMONSTRATION PROJECT

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 shallow Demonstration Project soil. Contaminant concentrations were high enough to warrant removal of shallow soil prior to the construction; this RAW describes the evaluative process and selection of the most appropriate removal action 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.). 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 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. 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 any future visitor or user.

The first iteration of this RAW shall be submitted to DTSC as a Draft document for review and comment. Following this review and revision process, a second iteration of the RAW shall be published, a public 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 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 implemented, 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 ad-

vanced 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 and groundwater 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 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 surface to the two-foot Citadel sampling horizon. The vertical extent of contamination 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 (in two of 12 surface soil samples)
- Diesel-range hydrocarbons (in four of 12 surface samples)
- Benzo(a)pyrene (in one of 12 surface samples)
- Benzo(b)fluoranthene (in one of 12 surface samples)
- Benzo(k)fluoranthene (in one of 12 surface samples)
- Ideno(1,2,3-cd)pyrene (in three 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; access is limited (and monitored by State Parks). 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 presumably associated with historic aerial deposition from the proximal transit corridors have been detected in the uppermost 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. Equipment and procedures associated with compliance shall be submitted under separate cover following selection of the RAW implementation contractor.

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:

| <u>Contaminant</u> | <u>Removal Goal</u> |
|-----------------------------------|------------------------------|
| Lead | 80 PPM (DTSC Residential SL) |
| Diesel-range hydrocarbons (TPH-D) | 260 PPM (RWQCB ESL) |
| Benzo(a)pyrene | 110 PPM (EPA RSL) |
| Benzo(b)fluoranthene | 1,100 PPM (EPA RSL) |
| Benzo(k)fluoranthene | 11,000 PPM (DTSC SL) |
| Ideno(1,2,3-cd)pyrene | 1,100 PPM (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 alter-

native, the remedial alternatives evaluated by Weston all involved some form of excavation, removal, capping and Institutional Controls (IC).

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.

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 considered two additional approaches to contaminant removal from the Demonstration Project parcel:

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.

The appealing aspect of these 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 alternatives rank high amongst each of the nine criteria as they are all protective, satisfy project priorities around toxicity reduction, are comparable in cost and satisfactory to regulatory and community stakeholders.

Excavation and relocation and reuse on adjacent Bowtie property ranks high on eight of the nine, but this alternative is less likely to be 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.

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, 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 1.5 feet below ground surface is proposed out of an abundance of caution (Figure 7). The basis for the 1.5-foot removal calculation is the expectation that given the atmospheric depositional regime and the physical nature of the COC (solids), contaminant concentrations attenuate rapidly with depth.
2. In light of the potential for VOC contamination in underlying groundwater, 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 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.

Shallow soil in the areas identified by sampling to contain concentrations of contaminants of concern in excess of remedial objectives will be excavated to a depth of 1.5 feet below ground surface prior to Demonstration Project feature development. As all shallow sedimentary material containing contamination will be removed prior to Demonstration Project

development, construction and post-construction workers, park visitors and maintenance workers will be free from potential exposure to site contamination.

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. Both the Health and Safety and Dust Monitoring Plan shall be prepared by the selected contractor and reviewed and approved by DTSC prior to the commencement of the removal action.

6.1 Permitting and Site Preparation

Grading, air quality (AQMD dust monitoring), and all other required permissions shall be 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 disposal facility shall be chosen by the remediation contractor based on acceptance criteria, location, and tipping fee at the time of project commencement.

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 documented and summarized in post removal action closure documentation.

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.

DTSC is the lead agency for the evaluation of the remedial action in terms of CEQA requirements. State Parks is the lead agency for the CEQA review of the Demonstration Project itself. DTSC and TNC will coordinate their respective reviews to leverage the areas of project commonality.

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:

FINAL TO BE SIGNED AND STAMPED

Markus B. Niebanck, PG
Principal

ATTACHMENTS

FIGURES

APPENDICES

A – AERIAL PHOTOGRAPHS

B – CITADEL DATA GAP SAMPLING REPORT

C – LEIGHTON AND WESTON DATA TABLES

FIGURES

amicus



Base figure from Weston TBA

Figure 1 - Site Location

The Nature Conservancy Demonstration Project Removal Action Workplan

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



BOWTIE PROJECT

WETLAND & PATH ILLUSTRATIVE

Figure 2 - Demonstration Project Conceptual Design

The Nature Conservancy Demonstration Project
Removal Action Workplan

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING

BlueGreen
CONSULTING



Revised boundary in red dashed line. Setback from access road is approximately 15 feet.

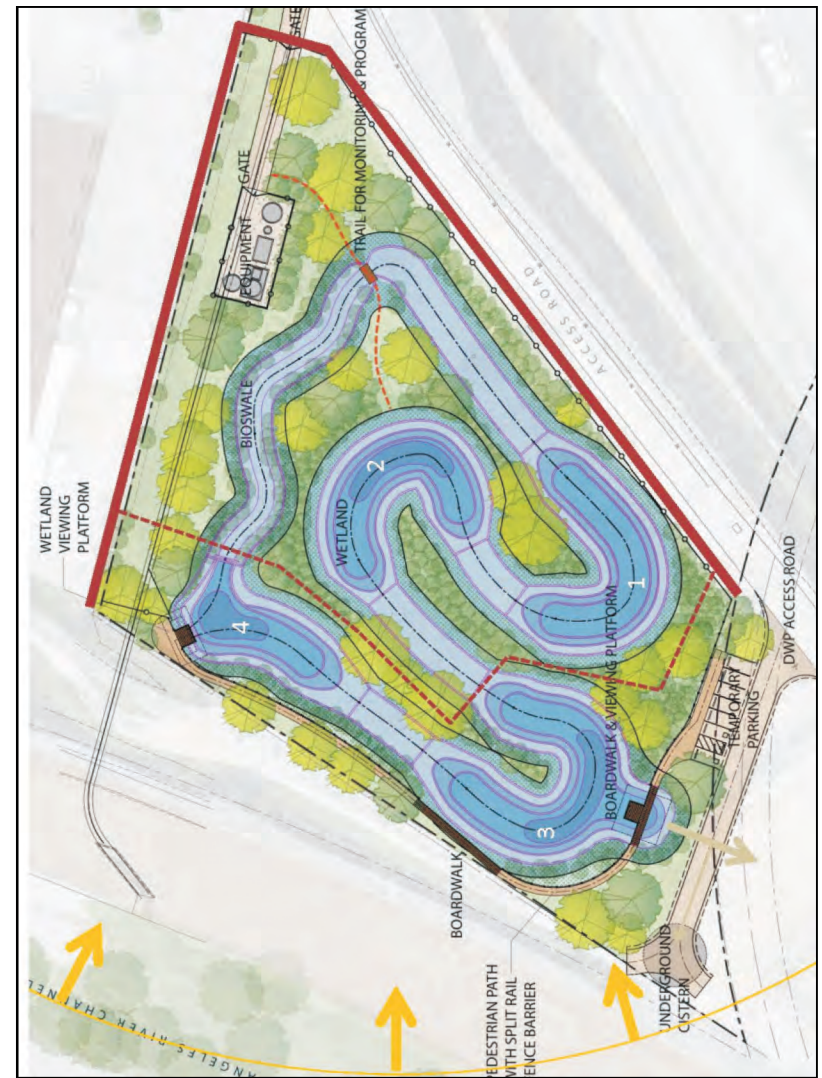


Figure 3 - Concept Design and Footprint

The Nature Conservancy Demonstration Project
Taylor Yard Bowtie Parcel, Los Angeles, CA

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



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

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



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

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



Taylor Yard

Demonstration Project Location



Figure 6 - Taylor Yard Features and Demonstration Project Location

The Nature Conservancy Demonstration Project
Removal Action Workplan

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



Reference - Weston 2020 TBA soil samples with cleanup goal exceedances

Approximate dimensions of 1.5-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

August 19, 2022

amicus - STRATEGIC ENVIRONMENTAL CONSULTING

APPENDIX F CONSTRUCTION NOISE WORKSHEET

Bowtie Wetland Demonstration Project

Construction Noise Worksheet

| Construction Noise Source (Point Source) | Acoustical Usage Factor | Maximum Sound Pressure @50 feet (dBA) | Distance to Receptor (Feet) | Point Source Noise Level Attenuation with Distance (dBA) | Ground Attenuation with Distance (dBA) | Total Noise Level Attenuation (dBA) |
|--|-------------------------|---------------------------------------|-----------------------------|--|--|-------------------------------------|
| Backhoe | 0.4 | 80 | 250 | 64.2 | 3.7 | 60.5 |
| Crane | 0.16 | 85 | 250 | 68.5 | 3.7 | 64.8 |
| Forklift (Gradall) | 0.4 | 85 | 250 | 69.2 | 3.7 | 65.5 |
| Forklift (Gradall) | 0.4 | 85 | 250 | 69.2 | 3.7 | 65.5 |
| Forklift (Gradall) | 0.4 | 85 | 250 | 69.2 | 3.7 | 65.5 |
| Front End Loader | 0.4 | 80 | 250 | 64.2 | 3.7 | 60.5 |
| Generator | 0.5 | 82 | 250 | 66.5 | 3.7 | 62.8 |
| Tractor | 0.4 | 84 | 250 | 68.2 | 3.7 | 64.5 |
| Truck | 0.4 | 55 | 250 | 39.2 | 3.7 | 35.5 |
| Truck | 0.4 | 55 | 250 | 39.2 | 3.7 | 35.5 |
| Welder | 0.4 | 73 | 250 | 57.2 | 3.7 | 53.5 |

Notes:

- Equipment types and numbers from Appendix A (CalEEMod Output)
- Equipment noise levels and acoustical usage factors from Federal Highway Administration Construction Handbook, August 2006
- Ground attenuation estimates assume soft sites, average transmission path of 2 meters above the ground.

| Construction Scenario | Total Noise Level at Nearest Wildlife Receptor (Leq dBA) | Wildlife Threshold of Significance (Leq dBA) | Exceed Wildlife Threshold of Significance? |
|---|--|--|--|
| Unmitigated Construction Noise | 73.2 | 60 | Yes |
| Mitigated Construction Noise with Temporary Sound Barrier | 58.2 | 60 | No |

Notes:

- Temporary sound barrier is placed along entirety of the western limits of site construction and is constructed of a design and materials/acoustic insulation to achieve a minimum 15 dBA noise level reduction.