

BIOLOGICAL RESOURCES ASSESSMENT JURISDICTIONAL DELINEATION REPORT

Line A Storm Drain Improvements and
Bledsoe Gulch Outfall Reconstruction
City of Highland
San Bernardino County, California

Prepared for:

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Prepared September 2020

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Certification

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Certification: I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this Biological Resources Report to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed and/or overseen by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.



Shay Lawrey, Ecologist/Regulatory Specialist

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1 Introduction

On behalf of City of Highland (City), Jericho Systems, Inc. (Jericho) conducted a biological resources assessment (BRA) and jurisdictional delineation (JD) for the proposed Line A Storm Drain and Bledsoe Gulch Outfall Reconstruction Project (Project), located in the City of Highland, San Bernardino County, California. The City, in coordination with East Highlands Ranch - Master Homeowners Association (EHR-MHOA), is proposing to re-construct the existing underground storm drain improvements at the upstream terminus of Bledsoe Gulch, replace the concrete apron at the storm drain outlet, re-grade and stabilize the existing embankment slope area near the EHR-MHOA Community Center, which is adjacent to the upstream terminus of Bledsoe Gulch.

The purpose of the BRA/JD was to identify sensitive or protected biological and hydrological resources that occur within, or adjacent to, the Project site and to determine if any Project-related impacts would result to those resources. Attention was focused on the sensitive species known to occur locally or have occurred previously in the area. This report is designed to address potential effects to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA), or species designated as sensitive by California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS). This report also addresses resources protected under the Migratory Bird Treaty Act (MBTA), federal Clean Water Act (CWA) regulated by the U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) respectively, and Section 1602 of the California Fish and Game Code (FCG) administered by the CDFW.

1.1 Project Location

The Project site is in the City of Highland, San Bernardino County, California encompassing a portion of Assessor's Parcel Number (APN) 0288-251-83, located on the south side of Highland Avenue between Rocksprings Lane and Cloverhill Drive, approximately 200 feet south of the EHR community center, located at 29159 Highland Avenue, Highland, CA, and to the west of the East Highland Reservoir.

The site is depicted on the U.S. Geological Survey (USGS) *Harrison Mtn. 7.5'* Topographic Map, within the southwest one-quarter of Section 35, Township 1 North, Range 3 West (Figures 1-3). All work will occur within APN 0288-251-83, owned by the EHR MHOA, Inc.

The Project site will occur on a single parcel. Approximately 0.48 acre occurs in the upland area within the grounds behind the East Highlands Ranch Community Center, and approximately 0.23 acre occurs on the slope of Bledsoe Gulch.

1.2 Background

The existing Line A is a 290-foot-long, 48-inch underground reinforced concrete pipe (RCP) that was installed 2002 between the community center and Bledsoe Gulch to convey the tributary drainage within the EHR subdivision as part of the subdivision development from just north of Highland Avenue. The existing pipe outlets approximately 50 feet downstream of the Bledsoe Gulch head, near the top of the slope embankment. The depth of the RCP ranges from 4 feet below ground surface (bgs) to 5 feet bgs between the existing community center and the Bledsoe Gulch outlet. A 75-foot long by 20-foot wide grouted riprap pad (0.03-acre) was also constructed along the existing slope embankment down to the bottom of the slope on a very steep slope of approximately 2:1.

Over time, the slope embankment area surrounding the RCP outlet has been severely eroded by high flow velocity flows coming from the RCP outfall, resulting in significant erosion along the creek sideslopes and invert, to currently an approximately 1.5:1 slope, and which is threatening the backyards of the adjacent homes that are situated along the west embankment, which is along Rockspring Lane. The existing grouted riprap pad below the RCP has also sustained damaged from the high flow velocity and is no longer providing erosion protection for the slope embankment and the RCP.

In 2012, a remedial repair was performed by lining an approximate 0.02-acre area of the creek head near the RCP outlet with concrete and extending the existing RCP downstream using a 20-foot long 48-inch plastic pipe. However, this limited repair did not stop the erosion of the creek head or adjacent embankment slope, and continual lateral erosion of the slope embankment caused structural cracking at the pipe joint of the RCP near the existing inlet riser. Currently, the creek head invert is approximately 58 feet below the top of the slope over a distance of approximately 120 feet, yielding an approximate slope of approximately 1.5:1.

1.3 Project Description

The Project will replace the existing 48-inch RCP with a new 48-inch RCP within the same alignment but at depths up to approximately 15 feet below ground surface (bgs) and will outlet at the creek base, on the apron, instead of at the top of the slope as it does currently. This new design will promote positive flow given the severely eroded creek head. The Project will add approximately 100 feet of new storm drain RCP along the existing invert of Bledsoe Gulch, and the head, toe and sideslopes will be regraded to mitigate the overly steep invert. Project plans are located in Appendix A.

The new 48-inch RCP is sized to convey the tributary 100-year storm flow of 257.7 cubic feet per second (cfs), which is the same flow of the original pipe.

In general work includes: replacing the existing underground storm drain lines between the EHR clubhouse and the upstream terminus of Bledsoe Gulch; relocating the Line A storm drain pipeline section between the Bledsoe Gulch head and base to approximately 10 feet below the invert so the newly relocated line will outlet at the same elevation as the current creek base elevation; replacing the concrete apron at the base of Bledsoe Gulch; re-grading Bledsoe Gulch from the head to the base and slopes which is severely eroded and threatening adjacent homes; and constructing a paved access road on top of the newly re-graded slope between the Bledsoe Gulch head and base.

The Project will occur within both land owned by the EHR and within Bledsoe Gulch as follows:

Work to Occur between EHR Community Center and Bledsoe Gulch head

This portion of the project will occur within the existing concrete access road and adjacent orange grove. In this area, the Project will first remove approximately 94 feet of the existing 48-inch RCP that is installed approximately at depths ranging from 2 feet to 5 feet bgs, then excavating a trench approximately 60 feet wide to depths of 10 to 15 feet bgs. Approximately 94 feet of new RCP will be installed. All soils will either be re-used and recompacted or hauled for proper disposal.

A new 60-inch diameter drainage inlet or riser will be installed at the tie-in point between the proposed and creek head, installed at a depth of 5 feet bgs. Additionally, an 18-inch lateral and 36-inch inlet will be constructed approximately 10 feet bgs to tie into the new 48-inch RCP and will serve as an outlet for

surface flows emanating from the citrus grove area of the community center. This lateral will also provide an outlet for a future underground subdrain to be constructed by EHR-MHOA.

A new 6-foot high chain link fence and a double gate with a lock are proposed near the creek head to prevent unwanted access or intrusion into the proposed storm drain system.

Work will impact approximately 21,116 square feet (or 0.48 acre) behind the community center in the vicinity of the existing concrete road. It is anticipated that between 1 and 10 orange trees may be removed or relocated during construction to facilitate equipment staging.

Work to Occur at Bledsoe Gulch head and within Bledsoe Gulch

The existing approximately 75-foot long by 20-foot wide grouted riprap pad (0.03-acre) headwall and rip rap will be removed.

To install the new 48-inch RCP in Bledsoe Gulch, the side slopes and invert of Bledsoe Gulch will be first be re-graded to facilitate positive drainage at a 2:1 slope and reduce the west slope erosion. The area to be regraded is approximately 0.23-acre in size directly around the Bledsoe Gulch head, west bank, and toe, or approximately 55 feet wide by 180 feet long by 5 feet deep.

An approximately 178 linear feet of new 48-inch RCP will be placed from the tie in at the top of the slope, to the base of the slope where the RCP will outlet onto a new grouted rip rap apron. The new apron is approximately 870 sf or approximately 0.02 acre. A headwall will be constructed around the new RCP outlet.

Once the RCP is laid, approximately 4 feet of clean fill (approximately 386 cy) will be compacted on top of the new pipe from the creek tie-in at the top of the slope, and along the slopes near the head and toe, especially the west slope, to reduce the steep grade. A new 12-foot-wide approximately 178 foot long, asphalt paved access road will then be constructed on top of the new fill, from the tie in at the head to the apron, to allow proper access for maintenance. A 6-inch asphalt dike will also be constructed along the west side of the access road to collect and control surface flows and convey them onto the apron.

To mitigate the west slope failure near the head, an approximate 106-foot-long concrete swale, approximately 1 foot deep will be constructed along the newly graded slope, approximately 36 feet upslope of the finished access road grade, designed to drain flows back into the creek at the new rip rap pad at the creek base. This swale will act as the first line of defense for the sheet flow from the top of the slope that is currently causing the slope erosion. The new swale will outlet at the new rip rap pad at the creek base.

The 386 cy of clean raw fill will be imported from a local soil supplier. Approximately 690 cy of raw cut from the site is anticipated to be exported.

Construction Scenario

The total area of construction is approximately 0.45 acre – of which approximately 0.22 acre occurs within the area between the area of the community center and the Bledsoe Gulch head, and approximately 0.23 acre occurs within Bledsoe Gulch. The anticipated stages of construction will consist of the following:

1. Mobilization.

2. Removal and disposal of 94 feet of the existing 48-inch storm RCP and plastic pipe, drainage inlet, slope lining, grouted riprap, un-grouted riprap, trees, litters, and shrubs.
3. Grading of the existing slope consisting of excavation and compacted fill including pipe excavation. The total area of grading is approximately 0.23 acre.
4. Installation of the new 48-inch RCP, 18-inch RCP, drainage inlets, and appurtenances by trenching various areas between 2 and up to 15 feet deep.
5. Pipe backfill.
6. Construction of the concrete headwall and riprap apron, approximately 0.02 acre
7. Grading of a 12-foot wide by 178-foot long new access road and construction of AC pavement and AC dike along the access road.
8. Construction of the concrete swale, 106 feet long by 3 feet wide along the access road
9. Installation of the 6-foot chain link fence and double gate.
10. Installation of temporary erosion controls (gravel bags and fiber rolls).

Potential Construction Equipment

Project construction will require the use of heavy equipment. While the final types and numbers of construction equipment will be determined by the construction contractor, the types of equipment that will be utilized for this work may include the following:

- Articulated front-end loader
- Dump truck
- Backhoe/dozer
- Long Reach Excavator
- Truck Crain

Right-of-Way Acquisition

The area to be potentially affected by the project includes approximately 0.45 acre of the EHR-MHOA property. The project would require the acquisition of a permanent easement along APN 288-251-083 as well as a temporary construction easement from EHR-MHOA. Since the proposed construction is not located within an existing roadway, it would not require relocation of existing utilities (water, sewer, cable, telephone, gas, electric utilities, etc.).

The project site has adequate clearances and access points for construction of the proposed storm drain. A temporary construction easement (TCE) would be required from EHR-MHOA for the duration of construction. In order to allow access to the outlet in Bledsoe Creek for periodic maintenance by the City, a permanent easement will be required from EHR-MHOA.

Utility Relocation

Some utility coordination may be required. All relocation will be coordinated with the respective utilities.

Construction Staging and Access

The City will coordinate and identify the staging area within the EHR-MHOA Community Center, therefore, equipment staging will occur on previously disturbed areas. Between 1 and 10 orange trees in the area between the community center and Bledsoe Gulch may be removed to facilitate staging of equipment and materials and/or construction of project components.

1.4 Environmental Setting

The project area is within the Southern California Mountains and Valleys Ecological Section (Subsection M262Bg San Gorgonio Mountains) of California, which includes mountains, hills and valleys of the Transverse Ranges and the Peninsular Ranges that are near the Pacific Ocean, but not bordering it (USFS 2017). Much of the section is close enough to the Pacific Ocean for the climate to be modified moderately marine influence. This subsection comprises the lower and warmer parts of the San Bernardino Mountains, which are between the southern branch of the San Andreas Fault on the south-southwest and the Mojave Desert on the north. It extends from the Cajon Pass eastward to near the Pipes Canyon fault. It includes mountains between the Mission Creek fault and the Banning fault on the south. The climate is hot to temperate and sub-humid. Marine effects on climate are moderate on the south-southwest side and slight on the north and east sides of the mountains.

Elevation on Around the community center is generally flat with no areas of significant topographic relief, lying at an elevation of approximately 1,634 mean sea level (msl), and slopes gently toward Bledsoe Gulch.

The head of Bledsoe Gulch abuts the south property boundary of the community center and is approximately 375 feet wide. The eastern bank in this area, which abuts Cloverhill Drive, is a steep 1.5:1 slope, with a drop of approximately 58 feet to the creek bottom, at an elevation of approximately 1,576. The terrain consists of a deep “v” gulch that is part of a drainage into Bledsoe Gulch. The gulch is cut from north to south. Riparian habitat is present in the base of the gulch, ranging about 60 feet across and coastal scrub habitat that begins at the edge of the riparian habitat and moves up the steep slopes.

The local area climate is semi-arid, with an average annual temperature of 67°F and a range from 34-103°F. The rainy season begins in November and continues through March, with the quantity and frequency of rain varying from year to year, averaging approximately 13 inches annually. The general vicinity consists of suburban residential community, flood control facilities and recharge basins, and a reservoir.

2 Regulatory Background

2.1 Clean Water Act (CWA)

The CWA is the principal federal law that governs pollution in the nation’s lakes, rivers, and coastal waters. Originally enacted in 1972 as a series of amendments to the Federal Water Pollution Control Act of 1948 the Act was last amended in 1987. The overriding purpose of the CWA is to “restore and maintain the chemical, physical and biological integrity of the nation’s waters.” Discharges of dredged or fill material in Waters of the U.S (WoUS) are regulated pursuant to Sections 404 and 401 of the CWA. The congressional intent of Section 404 of the CWA as articulated in Section 10 is to “maintain and restore the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA gives the USACE and the U.S. Environmental Protection Agency (EPA) regulatory and permitting authority regarding discharge of dredged or fill material into “navigable waters.” Permits issued by the USACE in California require certification by the State of California that the proposed discharge complies with the requirements of the California Porter-Cologne Water Quality Control Act. These certifications are issued by the State Water Resources Control Board or one of the nine RWQCBs.

Waters are defined broadly under the CWA to include all traditionally navigable waters, including those used or susceptible for use in interstate commerce, including all waters subject to the ebb and flow of the

tide, interstate waters, territorial seas, impoundments, and tributaries. Waters may also include wetlands and other waters that are not traditionally navigable such as wetlands that are adjacent to traditionally navigable waters. Wetlands are defined under federal regulations as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

2.1.1 US Army Corps of Engineers Regulated Activities

Pursuant to Section 404 of the CWA, the US Army Corps of Engineers (USACE) regulates the discharge (temporary or permanent) of dredged or fill material into Waters of the US (WoUS), including wetlands. A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, performing certain drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the Ordinary High Water Mark (OHWM), defined in CFR 328.3(e) as:

...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

2.2 Activities Regulated by the State

A federal permit or license cannot be issued that may result in a discharge to WoUS unless certification under Section 401 of the CWA is granted or waived by EPA, the state, or the tribe where the discharge would originate (EPA 2010).

Pursuant to Section 401 of the CWA:

...any applicant for a federal permit for activities that involve a discharge to WoUS shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA.

Therefore, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level.

Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, like WoUS, are typically delineated at the OHWM. State-regulated WoUS are overseen by the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs).

However, if waters are determined not to be WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act, which are regulated by the SWRCB and the RWQCBs under California’s Porter-Cologne Water Quality Control Act (Porter-Cologne). In April 2019, the SWRCB adopted a state

wetlands definition and procedures for the discharge of dredged or fill material into waters of the State (collectively, the Procedures). The Procedures are expected to become effective in mid-2020. The Procedures establish a permit process for discharges to both wetland and non-wetland waters of the State. Under Porter-Cologne and the Procedures, “Waters of the State” are defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Under the Procedures, a water of the State is a wetland “if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both, (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate, and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.” This definition varies from the federal definition in several respects, most notably that the state considers unvegetated features, such as mudflats or playas, to constitute wetlands.

2.2.1 California Fish and Game Code

Sections 1600 to 1616 of the California Fish and Game Code require any person, state, or local government agency or public utility (i.e., an entity) to notify the CDFW before beginning any activity that will divert the flow of or substantially modify a river, stream, or lake or result in the deposit of certain waste materials that may pass into a river, stream or lake. Following receipt of such a notification, CDFW determines whether the activity may affect fish and wildlife resources and, if it will, issues a “Lake and Streambed Alteration Agreement” to be entered into by the entity and CDFW and which authorizes the activity in question. CDFW defines the term “stream” as “a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic regime [i.e., ‘circa 1800 to the present’], and where the width of its course can reasonably be identified by physical or biological indicators.” CDFW regulates rivers and streams to their “maximum expression” on the landscape, often including the entire floodplain. *MESA Field Guide, Mapping Episodic Stream Activity* (2011).

2.3 Special Status Species Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to the continued existence and existing knowledge of population levels.

2.3.1 Federal Endangered Species Act

The USFWS administers the federal ESA of 1973. The ESA provides a legal mechanism for listing species as either threatened or endangered, and a process of protection for those species listed. Section 9 of the ESA prohibits “take” of threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. “Take” can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the ESA, the USFWS may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act. Take authorization can be obtained under Section 7 or Section 10 of the act.

2.3.2 California Endangered Species Act

The CDFW administers the CESA. The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in

such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. And a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. Further, all raptors and their nests are protected under Section 3503.5 of the California Fish and Game Code (FGC).

3 Methods

3.1 Biological Resources Assessment

3.1.1 Literature review

As stated above, the objective of this document is to determine whether the Project site supports special status or otherwise sensitive species and/or their habitat, and to address the potential effects associated with the proposed project on those resources. The species and habitats addressed in this document are based on database information and field investigation.

Prior to conducting the field study, species and habitat information was gathered from the relevant industry standard databases for the *Harrison Mtn.* USGS 7.5-minute series quadrangle to determine which species and/or habitats would be expected to occur in the Specific Plan area. These sources include:

- U.S. Fish and Wildlife (USFWS) threatened and endangered species occurrence GIS overlay;
- USFWS Information for Planning and Consultation System (IPaC);
- California Natural Diversity Database (CNDDDB) *Rarefind 5*;
- CNDDDB Biogeographic Information and Observation System (BIOS);
- California Native Plant Society Electronic Inventory (CNPSEI) database;
- Calflora Database;
- USFWS Designated Critical Habitat Maps

3.1.2 Field Survey

On February 14, May 16, and June 20, 2020 Jericho biologists Shay Lawrey, Christian Nordal, and Lauren Hall conducted biological resource evaluations and a jurisdictional delineation. Each member of the survey team has advance degrees, expertise and is experienced in conducting floristic and faunal field surveys, has knowledge in taxonomy and natural community ecology, is familiar with the habitats and sensitive species that occur locally and the applicable protective state and federal statutes, and has experience with analyzing impacts on natural communities.

The survey team conducted systematic and comprehensive surveys during calm weather, between the hours of 7:00 am and 12:00 p.m. each day. Weather conditions during the surveys consisted of clear skies with temperatures ranging from 54° F to 79° F and 5 mph winds. Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other sign. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species surveys was to identify potential habitat for special status wildlife within the Project area.

The surveys consisted of walking the entire area of site improvements plus generally a 40-foot buffer area, as limited by terrain vegetation and adjacent private residences for a total survey area of approximately 1.2 acres (Figure 4).

No limitations affected the results and conclusions given herein. Surveys were conducted during the appropriate season to observe the target species, in good weather conditions and by qualified biologists who followed all pertinent protocols.

3.2 Jurisdictional Delineation

The survey team also evaluated the Specific Plan area for the limits of jurisdictional waters, i.e. WoUS as regulated by the USACE and RWQCB, and streambed and associated riparian habitat as regulated by the CDFW. The evaluation of CWA WoUS was based upon the Corps' regulations and technical guidance issued by the USACE including, among other sources described further below, (i) *USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition)*, *Wetlands Delineation Manual, Environmental Laboratory, 1987 (Wetland Delineation Manual)*, *USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2008 (Arid West Supplement)* and *USACE A Guide to Ordinary High Water Mark (OHWM) Delineation Arid West Region of the United States, 2010*. The lateral extent of USACE jurisdiction was measured at the Ordinary High Watermark (OHWM), which is indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris.

Evaluation of FGC Section 1600 Streambed Waters followed guidance in the FGC in the *MESA Field Guide*, described above, pursuant to which CDFW claims jurisdiction beyond traditional stream banks and the outer edge of riparian. Under MESA, the term stream is defined broadly to include “a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic regime [i.e., ‘circa 1800 to the present’], and where the width of its course can reasonably be identified by physical or biological indicators.” Specifically, CDFW jurisdiction was delineated by measuring the elevations of land that confine a stream to a definite course when its waters rise to their highest level and to the extent of associated riparian vegetation. Here the extent of associated riparian vegetation was used to mark the lateral extent of the jurisdictional areas. Other data recorded included bank height and morphology, substrate type, and vegetation within and adjacent to the low flow streambed.

A variety of reference materials relevant to the project site were reviewed during the course of this delineation, including historical and current aerial imagery, Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM), National Oceanic & Atmospheric Administration (NOAA) climate data, USFWS National Wetland Inventory (NWI) and EPA Water Program “My Waters” data layers and United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) web soil survey. The data provided in the Web Soil Survey provides a standard basis for the soil textures and types that are assigned a hydric indicator status of “hydric” or “non-hydric” by the National Technical Committee for Hydric Soils.

The wetland investigation was based on the three-parameter approach (vegetation, soil, and hydrology). Potential wetland areas were assessed to the outer reach of the applicable vegetative community and corresponding soils that displayed wetland characteristics. Plant species were identified and given an indicator status as prescribed in the 2016 National Wetland Plant List (Arid West Region) (Lichvar, 2016). Vegetation nomenclature follows *The Jepson Manual, Vascular Plants of California, 2nd Edition* (Baldwin, 2012). To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

Hydrophytic vegetation

Hydrophytic (wetland) vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic.

Hydrophytic species are those included on the 2016 National Wetland Plant List (Arid West Region) (Lichvar, 2016). Each species on the list is rated according to a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have wetland indicator status, i.e., be rated as Obligate Wetland (OBL), Facultative Wetland (FACW) or Facultative (FAC).

Table 1
Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

Hydric Soil

Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. Generally, hydric soils are dark in color resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Generally, the hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are indicators suggesting a long-term reducing environment in the upper part of the soil profile. Typically, reducing conditions are most easily assessed using soil color.

- a) Color characteristics (Hue, Value, and Chroma) were recorded using a standard Munsell soil color chart (Munsell Color 2009).
- b) Soil physical characteristics were evaluated during the field delineations by excavating to a depth needed to evaluate potential hydric soil indicators below ground surface 18-24 inches.
- c) Soils that exhibited hydric soil indicators, such as low chroma colors and/or evidence of reducing conditions met the hydric soil criterion per USACE (1987 and 2012).

The Arid West Supplement provides a list of 23 of hydric soil indicators known to occur in the Arid West region. Hydric soils are present at any sample plot where the soil samples met one or more of those 23 hydric indicators. As set forth in the Arid West Supplement (2008), some wetlands can be difficult to identify because wetland indicators, including those relating to soils, may be missing due to natural processes or recent disturbances. As set forth on Page 97 of the Arid West Supplement, sand and gravel bars within floodplains can be problematic because they may lack hydric indicators due to seasonal and annual depositions, resulting in sandy substrates that are low in iron and manganese content and have low organic matter content.

Wetland Hydrology

Hydrology (water depth, extent of inundation, period of inundation) determines all other wetland characteristics. Federal Regulation 33 CFR 328.3(b) defines “wetlands” as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” According to the Corps’ 1987 Wetland Delineation Manual, the primary hydrologic test to determine soil saturation was whether the area’s water table rises to within 18 inches of the surface for seven consecutive days during the growing season (February-June).

Seasonal and long-term rainfall patterns, local geology and topography, soil type, local water table conditions, and drainage are factors that control hydrology. Wetland hydrology indicators include: surface water, high water tables, saturation, water marks, sediment deposits, drift deposits, surface soil cracks, inundation visible on aerial imagery, water stained leaves, salt crusts, biotic crusts, aquatic invertebrates, hydrogen sulfide odor, oxidized rhizospheres along living roots, the presence of iron reduction in tilled soils, thin muck surfaces, drainage patterns, crayfish burrows, and shallow aquitards. The Project area was examined for primary or secondary indicators of wetland hydrology as described in the Arid West Supplement.

In normal rainfall years, the instream floodplain within the Project area is in a state of dynamic equilibrium in terms of how the flows move sediment. Large flood events change the main channel form and results in a reset. This type of change occurs approximately every 20-50 years. The instream floodplain is an infinitely adjustable complex of interrelations among flow, width, depth, bed resistance, sediment transport, and vegetation. Changes in any of these factors causes adjustments in all other factors. Thus, the instream floodplain in the Project area encompasses a riverine/wetland mosaic of wetlands, and other waters which include active channels and unvegetated wetlands.

4 Results

4.1 Literature Review

According to the CNDDDB, CNPSEI, and other relevant literature and databases, approximately 51 (28 plants, 5 birds, 7 mammals, 6 reptiles, 3 insects, 2 fish) sensitive species and 3 sensitive habitats have been documented to occur in the *Harrison Mtn.* USGS 7.5-minute series quadrangle. An analysis of the likelihood for occurrence of all sensitive species is provided in Table 2. This analysis considers species range as well as documentation within the vicinity of the project area. No sensitive species have been documented within the project vicinity (approximately 1 mile), and one sensitive habitat, Southern Sycamore Alder Riparian Woodland has been documented within the project vicinity.

Of the approximately 51 sensitive species identified in the *Harrison Mtn.* quadrangle, 10 (1 plant species, 4 birds, 1 mammal, 1 reptile, 2 amphibians, 1 fish) are State- and/or federally-listed as threatened or endangered species. No State- and/or federally-listed species or critical habitat have been documented within the project vicinity (1.5 miles).

Attachment B located at the end of the document, provides a complete list of State and/or federally listed threatened or endangered species CDFW designated Species of Special Concern (SSC), and otherwise Special Animals and provides a potential to occur assessment based on the field investigations and surveyor’s knowledge of the species and local ecology. The term “Special Animals” is a general term that refers to all the taxa the CNDDDB is interested in tracking, regardless of their legal or protection

status. This list is also referred to as the list of “species at risk” or “special status species.” The CDFW considers the taxa on this list to be those of greatest conservation need.

4.1.1 Critical Habitat

According to the databases, the Project site is not located within designated Critical Habitat (CH).

4.2 Field Review

4.2.1 Existing Conditions

The project site is located in an area that has primarily been converted from natural habitats to residential developments and supporting infrastructure. The project site is bordered by Highland Avenue and residential developments to the north; Rockspring Lane and residential developments to the west; a community center, parking lot, an orange grove, and the northeast portion of Bledsoe Gulch to the east; and Bledsoe Gulch to the south.

The northern portion of the project site, above Bledsoe Gulch, will occur within the existing concrete access road, adjacent orange grove, parking lot, and landscaped shoulder of Highland Avenue. This portion of the project site has been subject to a high level of anthropogenic disturbances associated with the orange grove and surrounding development (i.e., community center and roads) and does not support any native habitats.

The southern portion of the project site occurs on the steep (approximately 2:1 slope) northern slope of Bledsoe Gulch. This portion of the project site has been subject to erosion from failure of the existing storm drain, which is encroaching into the backyard of the residential lots to the west. The portion of the slope supports existing grouted and ungrouted riprap, and is primarily composed of non-native/invasive plant species (i.e., short-podded mustard, Mexican fan palm, tree tobacco, castor bean). Due to the existing riprap, exposed soils, and steep slope, this portion of the project site is not expected to support a robust riparian plant community.

4.2.2 Soils

NRCS soil surveys show the project site consists of Greenfield fine sandy loam, 9 to 15 percent slopes (GtD) for most of the project site, and Saugus sandy loam, 30 to 50 percent slopes (ShF) in the southern end.

4.2.3 Vegetation

The habitat found on the southern portion of the Project site, on the slope of Bledsoe Gulch, is dominated by a mix of non-native/invasive and native plant species, that would be classified as mixed riparian scrub. Non-native/invasive plant species found within this portion of the project site include tree tobacco (*Nicotiana glauca*), Mexican fan palm (*Washingtonia robusta*), castor bean (*Ricinus communis*), tocalote (*Centaurea melitensis*), short-podded mustard (*Hirschfeldia incana*), and non-native grasses (*Bromus* spp.). Native plant species observed within this plant community include western sycamore (*Planatus racemosa*), poison oak (*Toxicodendron diversilobum*), with an understory of stinging nettle (*Urtica dioica*), wild grape (*Vitis girdiana*), California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), coyote bush (*Baccharis pilularis*), and California buckwheat (*Eriogonum fasciculatum*).

4.2.4 Sensitive Habitats

According to the CNDDDB and other relevant literature and databases, the only sensitive habitat documented within 1 mile of the Project site is Southern Sycamore Alder Riparian Woodland.

California sycamore woodlands (*Platanus racemose*) Woodland Alliance

The Sawyer-Keeler Wolfe alliance is California sycamore woodlands (*Platanus racemose*) Woodland Alliance with the Holland ID of Southern Sycamore Alder Riparian Woodland. Southern Sycamore Alder Riparian Woodlands are found in gullies, intermittent streams, springs, seeps, stream banks, and terraces adjacent to floodplains that are subject to high-intensity flooding. Soils are rocky or cobbly alluvium with permanent moisture at depth. This habitat type is a tall deciduous riparian woodland that is dominated by western sycamore by at least 30 percent with occasional white alders. The USFWS Wetland Inventory (1996) recognizes *P. racemosa* as a FACW plant. These woodland stands seldom form closed canopies and may even appear as trees scattered in a shrubby thicket. The intermittent nature these high intensity flow drainages favor western sycamore as the dominant species, but white alder increases in abundance on more perennial streams.

The habitat within the southern portion of the Project site would best be classified as a mixed riparian scrub habitat that has been subject to anthropogenic disturbances from erosion associated with the failing outfall structure and riprap. Outside of the project footprint, Bledsoe Gulch supports a California sycamore woodland plant community due to its vegetative cover and lack of anthropogenic disturbances. No impacts to California sycamore woodlands are expected to occur from project implementation.

4.2.5 Sensitive Plants

Sensitive plants identified by literature review of the *Harrison Mountain quadrangle* to potentially occur locally included smooth tarplant (*Centromadia pungens* ssp. *laevis*), California satintail (*Imperata brevifolia*), California muhly (*Muhlenbergia californica*), Sonoran maiden fern (*Thelypteris puberula* var. *sorensis*). However, these sensitive plant species have low potential to occur within and/or adjacent to the Project site because the required associated habitat types/communities within the Project footprint are absent due to existing anthropogenic disturbances associated with the existing outfall structure, riprap and surrounding development, which has eliminated that natural plant communities that these plant species are typically associated with.

None of the sensitive species known to occur within the *Harrison Mountain quadrangle* were observed during the general floristic survey conducted by the survey team. No suitable environment for these species occurs within the survey area. No further investigations relative to these species are warranted or required.

4.2.6 Heritage Trees

According to the City of Highland Municipal Code Chapter 8.36 Heritage Trees heritage tree preservation requires replacement at a 2:1 ratio of all mature trees (those with 24-inch diameters or greater measured 4½ feet above the ground) that are removed by permit. The requirements for a permit states:

1. *No person, firm, or corporation shall remove, relocate or destroy any heritage tree within the city limits, including an applicant for a building permit, without first obtaining a tree removal permit from the community development director.*

2. No tree removal permit shall be issued for the removal of any heritage tree on any lot associated with a proposal for development, unless all discretionary approvals have been obtained from the city.
3. No tree designated as an historic landmark shall be altered, removed, relocated or destroyed by any person, firm or corporation without first obtaining a landmark alteration permit and tree removal permit.

Several of the sycamore and willow trees found within the southern portion of the Project site are mature with diameters over of 24-inches or more. Therefore, these trees meet the size requirements to be considered heritage trees per the City ordinance, but are not considered a historic landmark according to research performed for this Project. The project is exempt from the ordinance per Section 8.36.030 D (Exemptions) as “Trees which, in the opinion of the city engineer, or designee, will cause damage to existing public improvements.”

4.2.7 General Wildlife

Birds were the most observed wildlife group during survey. Common wildlife species observed or otherwise detected on or in the vicinity of the site during the surveys included house wren (*Troglodytes aedon*), mockingbird (*Mimus polyglottos*), American bushtit (*Psaltriparus minimus*), hermit thrush (*Catharus guttatus*), house finch (*Haemorhous mexicanus*), American goldfinch (*Spinus tristis*), Least Concern (*Population increasing*), phainopepla (*Phainopepla nitens*), spotted towhee (*Pipilo maculatus*), black phoebe (*Sayornis nigricans*), acorn woodpecker (*Melanerpes formicivorus*), song sparrow (*Melospiza melodia*), yellow rump warbler (*Setophaga coronate*), lesser goldfinch (*Spinus psaltria*), northern flicker (*Colaptes auratus*), Anna’s hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), and side-blotched lizard (*Uta stansburiana elegans*).

4.2.8 Sensitive Wildlife

According to the CNDDB, and other relevant literature and databases, no State- and/or federally-listed threatened or endangered wildlife species are documented within 1 mile of the project site. There are several sensitive wildlife species that are particularly important in this region, which are either documented to occur in the *Harrison Mountain* USGS quadrangle or have a moderate likelihood of occurring on the site. These special status wildlife species are described below.

Least Bell’s Vireo

Least Bell’s vireo is a federally and state endangered subspecies of the Bell’s vireo. It is a summer migrant to California and is the only regularly-occurring subspecies of Bell’s vireo in San Bernardino County. Its nesting habitat typically consists of a well-developed over-story and understory, along with low densities of aquatic and herbaceous plant cover. The understory frequently contains dense sub-shrub or shrub thickets that are often dominated by plants such as willow, mulefat, and one or more herbaceous species. Least Bell’s vireos begin to arrive at their breeding grounds in southern California riparian areas from mid-March to early April. Upon arrival, males establish breeding territories that range in size from 0.5 to 7.4 acres, with an average size of approximately two acres. In California, females begin laying eggs in April, fledging birds until the end of July (Kus et al. 2010). The fledglings will remain in the parental territory for up to a month. Bell’s vireos leave the breeding grounds and migrate south mid- to late September. Although not common, a few have been found wintering in southern California (Hamilton and Willick 1996).

The plant communities within the southern portion of the Project, were determined to have a **high** potential to provide suitable habitat for least Bell's vireo. However, no least Bell's vireo were observed/heard onsite during the June field investigation. Project implementation is recommended to be conducted outside of the avian breeding season (generally February 1 through August 31). However, if construction will be initiated during the breeding season, a pre-construction clearance survey should be conducted, focusing on least Bell's vireo.

Western Yellow Bat

The western yellow bat is a tree bat found in California in riparian, wash, and palm oasis habitats. The species is found year-round in California and roosts within the fronds of palm trees. They forage for flying insects over water and among trees using steady and maneuverable flight.

Per the literature review, the nearest yellow bat was documented in 1984 and 1988 with captured specimens. Location data for these specimens were limited to the general Highland area. Suitable habitat for the species occurs near/downstream of the project site. Because of the palm trees that are within the Project footprint, the potential for yellow bat to occur is **moderate**.

4.2.9 Wildlife Corridors

The Project site is not considered an established wildlife movement corridor because the area does not connect two or more significant habitat areas and the area is not a major feature influencing the local plant and small mammal communities, due to surrounding development. Therefore, this project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species through the Project site.

The Project site could be considered a nursery site however, for migratory birds during the nesting season. Project implementation is recommended to be conducted outside of the avian breeding season (generally February 1 through August 31). However, if construction will be initiated during the breeding season, a pre-construction clearance survey should be conducted. If construction occurs outside of the bird nesting season there will be no shift in habitat use by migratory birds, alter population dynamics, or change the local species compositions. After construction, there will be no impact.

4.3 Jurisdictional Waters

One (1) unnamed ephemeral drainage feature (Drainage 1) was observed within the boundaries of the Project site during the field delineation. The onsite drainage feature generally flows north to south from the outlet of the Line A pipeline along the northern slope of Bledsoe Gulch on the southern portion of the Project site. Drainage 1 was created from stormwater runoff from the surrounding development that begins at the top of slope, where Line A outlets, and ends at the base of the slope, which is the area mapped as the head of Bledsoe Gulch. Drainage 1 conveys flows into Bledsoe Gulch which flows through a series of earthen channels and concrete lined flood control channels before conveying flows into City Creek. City Creek conveys flows into the Santa Ana River (Relatively Permanent Water), and ultimately the Pacific Ocean (Traditional Navigable Water).

Drainage 1, on the slope of Bledsoe Gulch within the project footprint, was created from the installation of the storm drain outlet (Line A) that was installed to convey storm flows from the surrounding development. It should be noted that Bledsoe Gulch can be observed on historic aerials dating back to 1938 and is seen as a topographic low spot with native vegetation amongst citrus groves. However,

residential development in the late 1980s began to eliminate the surrounding citrus groves, further altering the flow regime of the Bledsoe Gulch. The OHWM within Drainage 1 was approximately 3 feet wide and extending for approximately 155 feet, totaling 0.01 acre. This feature only conveys surface flow in direct response to precipitation and urban runoff from the surrounding developments.

As previously noted, the habitat found in the southern portion of the Project site, adjacent to Drainage 1, is composed of a mix of non-native/invasive and native plant species, that would be classified as mixed riparian scrub. Non-native/invasive plant species found within this portion of the project site include tree tobacco, Mexican fan palm, castor bean, tocalote, short-podded mustard, and non-native grasses. Native plant species observed within this plant community include western sycamore, poison oak, with an understory of stinging nettle, wild grape, California sagebrush, brittlebush, coyote bush, and California buckwheat.

4.3.1 Federal Jurisdictional Waters

Prior to leaving the site, and after transmission losses, surface flows from Drainage 1 flow approximately 0.5 mile to the south within the earthen bottom of Bledsoe Gulch before flowing into a culvert under Baseline Road and into an open concrete flood control channel. Flows are then conveyed within the concrete channel from Baseline Road to Church Street for 0.12 mile before entering a culvert under Church Street. From Church Street, flows are then conveyed via an earthen channel for approximately 0.13 mile before entering another culvert west of the terminus of Sycamore Drive. From the culvert west of the terminus of Sycamore Drive, water is conveyed via a series of open concrete flood control channels and underground culverts for approximately 1 mile before converging into City Creek.

Based on the detailed analysis of onsite hydrologic conditions, it was preliminarily determined that Drainage 1 has an insubstantial or speculative effect on the chemical, physical or biological significant nexus to the downstream RPW (Santa Ana River); and, therefore to the TNW (Pacific Ocean). The onsite drainage feature is an ephemeral feature that flow only in direct response to precipitation, is not considered a perennial or intermittent tributary, and does not possess a significant nexus (surface hydrologic connection) to downstream waters of the United States. Therefore, it is non jurisdictional in terms of the federal CWA.

Federal Wetlands

Areas with standing or flowing water or with seasonally or permanently saturated soils commonly support wetland communities. Freshwater wetlands are complex and variable, and their species composition and overall structure are dependent on a number of factors. Water depth, seasonal fluctuations in water levels, rate of water movement, water and sediment chemistry (including salinity, pH, and quantity of organic matter), depth and texture of bottom sediments, amount of sunlight, and water and air temperatures are among the most important variables affecting overall wetland dynamics. Along rivers and streams, fine-grained alluvial soils settle in the bottom of the drainages, and annual inundation after rains provide a significant load of nutrients, soil, and new germination sites. Wetland communities support an abundant variety of wildlife and often form the most productive habitats among the world's ecosystems. Numerous animal species depend on wetlands for critical parts of their life cycles.

On site soils are sandy and boulder strewn. No wetland soils occur in the Project area. There appears to be no seep areas or areas where water pools within the Project area. The slope is very steep at 46 percent or 1.5:1. Therefore, flows are conveyed downslope and do not collect on site or percolate into the soil. As such, there is no wetland hydrology that would allow for water to pond for long enough to create anerobic

conditions in the soil to form hydric soils. In terms of vegetation on site, facultative wetland species, such as western sycamore, Pacific willow, and stinging nettle grow on site. In terms of the federal CWA, the site does not meet the criteria of being a wetland area since the site lacks hydric soils.

4.3.2 State Jurisdictional Waters

Regional Water Quality Control Board

The onsite drainage feature exhibits characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Approximately 0.01 acre (155 linear feet) of non-wetland waters of the State occur onsite. Based on the proposed site plan, approximately 0.01 acre (155 linear feet) of Regional Board jurisdictional areas will be impacted.

State Wetlands

Under the State Water Resources Control Board State Wetland Definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. Based on the results of the field delineation, it was determined that no areas within the project site meet the State Wetland Definition. Therefore, no state wetland features exist within the Project site.

California Department of Fish and Wildlife

The onsite drainage feature exhibits characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Approximately 0.20 acre of CDFW jurisdiction was mapped within boundaries of the project site, consisting of 0.01 acre (155 linear feet) of streambed, and 0.19 acre of associated riparian habitat. Based on the proposed site plan, approximately 0.20 acre (155 linear feet) of CDFW jurisdictional areas will be impacted.

5 Conclusions and Recommendations

5.1 Sensitive Biological Resources

No federally listed species, or other sensitive species were observed during the field survey nor are any expected to occur.

Habitat is suitable for the least Bell's vireo, although none were found or heard during the field survey. As such, the following recommendation is made to reduce potential impacts to this species:

Recommendation: Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist will conduct pre-construction Nesting Bird Surveys (NBS) prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required. If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity, and duration of disturbance. The nests and buffer zones

shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

5.2 Heritage trees

The Project is exempt from the City of Highland's Heritage Tree ordinance.

Several of the sycamore and willow trees found within the southern portion of the Project site are mature with diameters over of 24-inches or more. Therefore, these trees meet the size requirements to be considered heritage trees per the City ordinance, but are not considered a historic landmark according to research performed for this Project. The Project is exempt from the ordinance per Section 8.36.030 D (Exemptions) as "Trees which, in the opinion of the city engineer, or designee, will cause damage to existing public improvements."

5.3 Nesting birds

Vegetation suitable for nesting birds does exist within the Project site and adjacent areas. As discussed, most birds are protected by the MBTA. Implementation of the recommendation for a pre-construction survey for least Bell's vireo will also be sufficient to reduce potential impacts to nesting birds.

5.4 Jurisdictional Waters

Drainage 1 does not possess a significant hydrologic nexus to downstream waters of the United States, and therefore, is not expected to fall under the regulatory authority of the USACE. Therefore, it would be considered as ephemeral as it is not natural nor is it influenced by groundwater. Therefore, it is non jurisdictional in terms of the federal CWA. Drainage 1 is considered however, jurisdictional under the California FGC Section 1600 and Porter Cologne as a State Streambed Water.

The USACE regulates discharges of dredged or fill materials into waters of the United States and wetlands pursuant to Section 404 of the CWA. No Corps jurisdictional areas were identified within the project site and a CWA Section 404 permit would not be required for the proposed project. It recommended that the project applicant coordinate with the Corps to confirm existing site conditions and document the absence of Corps jurisdiction within the boundaries of the project site. The Corps may require a Approved Jurisdictional Determination (AJD) to be processed to confirm the absence of waters of the United States.

The drainage morphology and hydrology of Drainage 1 are subject to Section 1600 of the California FGC and to the Porter-Cologne Act. The proposed improvements to an existing facility are considered an alteration of a State streambed water that falls under the jurisdictions of the CDFW and RWQCB. A Section 1600 Streambed Alteration Agreement from the CDFW and a Waste Discharge Requirement (WDR) Permit from the RWQCB will be required.

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Attachment A

Attachment B

CNDDDB Sensitive Species Documented in the *Harrison Mountain*, USGS 7.5-minute Quadrangle

Scientific Name	Common Name	Federal State Listing Other Listings	Habitat	Occurrence Potential
Plants				
<i>Acanthoscyphus parishii</i> var. <i>parishii</i>	Parish's oxytheca	None None G4?T3T4 S3S4 CNPS: 4.2	Chaparral, Lower montane coniferous forest, sandy or gravelly soils. Jun-Sep	Habitat on site is riparian. Suitable habitat does not occur on site. Potential to occur is low .
<i>Allium howellii</i> var. <i>clokeyi</i>	Mt. Pinos onion	None None G4T2 S2 CNPS: 1B.3 USFS: S	Great Basin scrub, pinyon and juniper woodland, meadows, and seeps (edges). 1385-1800 m.	The species does not occur at the project elevations, which are below 500 m. Potential to occur is low .
<i>Berberis nevinii</i>	Nevin's barberry	Endangered Endangered G1 S1 CNPS: 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	Slopes are south-facing, but low-grade riparian habitat is on site. Last documented occurrences are over 7 miles away northeast and have been extirpated. Potential to occur is low .
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	None None G3T2 S2 CNPS: 1B.2 BLM: S USFS: S	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow-pine forest, chaparral. 195-2530 m.	Chaparral, meadows, or pine forest habitat does not occur on site. Potential to occur is low .
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	None None G4 S4 CNPS: 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Habitat on site is not suitable for this species. Potential to occur is low .
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None None G2? S2? CNPS: 1B.2 USFS: S	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland. Mesic to drying soils in open areas of stream and meadow margins or in vernal wet areas. 1140-2320 m.	Site elevations are lower than where this species is found. Potential to occur is low .
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	None None G3G4T2 S2 CNPS: 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also, in disturbed places. 5-1170 m.	Riparian woodland occurs on site and the closest documented occurrence is in City Creek approximately 1 mile east. Potential to occur is moderate .

Scientific Name	Common Name	Federal State Listing Other Listings	Habitat	Occurrence Potential
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None None G3T2 S2 CNPS: 1B.1 BLM: S USFS: S	Coastal scrub, chaparral, cismontane woodland, valley, and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	Habitat on site is not suitable for this species. Potential to occur is low .
<i>Eriophyllum lanatum</i> var. <i>obovatum</i>	southern Sierra woolly sunflower	None None G5T4 S4 CNPS: 4.3	Lower montane coniferous forest, Upper montane coniferous forest, sandy loam. 900-2745 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Heuchera caespitosa</i>	urn-flowered alumroot	None None G3 S3 CNPS: 4.3	Cismontane woodland, Lower montane coniferous forest, Riparian forest (montane), Upper montane coniferous forest. Rocky. 850-3200 m	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Heuchera parishii</i>	Parish's alumroot	None None G3 S3 CNPS: 1B.3 USFS: S	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder & rock field. Rocky places. Sometimes on carbonate. 1340-3505 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Hulsea vestita</i> ssp. <i>parryi</i>	Parry's sunflower	None None G5T4 S4 CNPS: 4.3	Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest, granitic or carbonate, rocky, openings. 1167-3500 m	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Imperata brevifolia</i>	California satintail	None None G4 S3 CNPS: 2B.1 USFS: S	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows, and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-1495 m.	Riparian habitat occurs on site and the closest documented occurrence is in City Creek approximately 1 mile east. Potential to occur is high .
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None None G2T2 S2 CNPS: 1B.2 USFS: S	Meadows and seeps, pebble plains, upper montane coniferous forest. In pebble plains and meadows with other rare plants. 1490-2960 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	None None G4T4? S4? CNPS: 4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland openings. -20-2158 m	Habitat on site is not suitable for the species. Potential to occur is low .

Scientific Name	Common Name	Federal State Listing Other Listings	Habitat	Occurrence Potential
<i>Malacothammus parishii</i>	Parish's bush-mallow	None None GXQ SX CNPS: 1A	Chaparral, coastal sage scrub. In a wash. 305-455 m.	Habitat on site is not suitable for the species. Potential to occur is low .
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	None None G5T3 S3 CNPS: 1B.3 USFS: S	Broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley, and foothill grassland. Dry slopes and ridges in openings. 700-1800 m.	Habitat on site is not suitable for the species. Potential to occur is low .
<i>Muhlenbergia californica</i>	California muhly	None None G4 S4 CNPS: 4.3	Chaparral, Coastal scrub, Lower montane coniferous forest, Meadows, and seeps mesic, seeps and streambanks. 249-2377 m.	Riparian habitat occurs on site. Local occurrences are historic in areas currently developed, and more recent populations are located at higher elevations. Potential to occur is moderate .
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	None None G4T3T4 S2 CNPS: 2B.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Damp meadows or along streambeds-prefers an open pine canopy. 1470-2530 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Phacelia mohavensis</i>	Mojave phacelia	None None G4Q S4 CNPS: 4.3	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pinyon and juniper woodland, sandy or gravelly soils. 748-2606 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	None None G5T3T4 S3S4 CNPS: 4.3	Chaparral, Gabbroic, granitic, clay. 150-1965 m.	Suitable habitat for this species does not occur on site. Potential to occur is low .
<i>Piperia leptopetala</i>	narrow-petaled rein orchid	None None G4 S4 CNPS: 4.3	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest. May-Jul	Suitable habitat for this species does not occur on site. Potential to occur is low .
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	None None G5T2 S2 CNPS: 1B.2 USFS: S	Meadows and seeps, riparian woodland, lower montane coniferous forest, upper montane coniferous forest. Known from wet areas within forested habitats. Affected by hydrological changes. 1575-2590 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	None None G4	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. 3-2380 m.	Alkali habitats do not occur on site. Potential to occur low .

Scientific Name	Common Name	Federal State Listing Other Listings	Habitat	Occurrence Potential
		S2 CNPS: 2B.2 USFS: S		
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	None None G3G4 S3S4 CNPS: 4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. 1440-2500 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Streptanthus campestris</i>	southern jewelflower	None None G3 S3 CNPS: 1B.3 BLM: S USFS: S	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m.	Site occurs below elevation ranges where this species is found. Potential to occur is low .
<i>Symphytotrichum defoliatum</i>	San Bernardino aster	None None G2 S2 CNPS: 1B.2 BLM: S USFS: S	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. 3-2045 m.	The microhabitat conditions required for this species do not occur on site. Potential to occur is low .
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	None None G5T3 S2 CNPS: 2B.2 USFS: S	Meadows and seeps. Along streams, seepage areas. 60-930 m.	Habitat on site is suitable for this species and an occurrence was documented in 2009 approximately 4 miles northeast. Potential to occur is moderate .
Birds				
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	None None G5T3 S3 CDFW: WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Coastal scrub habitat does not occur within the project site. Potential to occur is low .
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Threatened Endangered G5T2T3 S1 BLM: S NABCI: RWL USFS: S USFWS: BCC	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Broad, willow-riparian habitat occurs on site. However, the last observed occurrence was in 1930 and the last update (2015) has listed the species as possibly extirpated, as habitat where it was found has been developed. Potential to occur is low .
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	Endangered Endangered G5T2	Riparian woodlands in Southern California.	Riparian habitat occurs on site, and the last recorded occurrence of this species (2007)

Federal State Listing				
Scientific Name	Common Name	Other Listings	Habitat	Occurrence Potential
		S1 NABCI: RWL		is approximately 4.2 miles northwest of the site. Potential to occur is low .
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted Endangered G5 S3 BLM: S CDFW: FP IUCN: LC USFS: S USFWS: BCC	Lower montane coniferous forest , Oldgrowth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Coniferous forest habitat does not occur on site. Potential to occur is low .
<i>Vireo bellii pusillus</i>	least Bell's vireo	Endangered Endangered G5T2 S2 IUCN: NT NABCI: YWL	Riparian forest , Riparian scrub , Riparian woodland. Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Riparian habitat occurs on site and the closest documented occurrence (2016) is approximately 1.25 miles east in City Creek. Potential to occur is high .
Mammals				
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	Endangered Candidate Endangered G5T1 S1 CDFW: SSC	Coastal scrub. Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Alluvial scrub habitat does not occur on site. Potential to occur is low .
<i>Eumops perotis californicus</i>	western mastiff bat	None None G5T4 S3S4 BLM: S CDFW: SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Open, semiarid habitat does not occur on site. Potential to occur is low .
<i>Glaucomys oregonensis californicus</i>	San Bernardino flying squirrel	None None G5T1T2 S1S2 CDFW: SSC USFS: S	Broadleaved upland forest , Lower montane coniferous forest. Known from black oak or white fir dominated woodlands between 5200 - 8500 ft in the San Bernardino and San Jacinto ranges. May be extirpated from San Jacinto range.Needs cavities in trees/snags for nests and cover. Needs nearby water.	The project does not occur at elevations where this species lives. Potential to occur is low .
<i>Lasiurus xanthinus</i>	western yellow bat	None None G5 S3 CDFW: SSC IUCN: LC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Suitable foraging habitat occurs on to the site; roosting habitat occurs adjacent to site. Potential to occur is moderate .
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None None G4 S3	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs. Roosts in caves, tunnels, mines, and rock crevices.	Suitable roosting habitat does not occur on site. Potential to occur is low .

Federal State Listing				
Scientific Name	Common Name	Other Listings	Habitat	Occurrence Potential
		CDFW: SSC IUCN: LC		
<i>Perognathus alticola</i>	white-eared pocket mouse	None None G1G2TH SH BLM: S CDFW: SSC IUCN: EN USFS: S	Lower montane coniferous forest, Mojavean desert scrub, Pinon & juniper woodlands. Ponderosa and Jeffrey pine habitats; also, in mixed chaparral and sagebrush habitats in the San Bernardino Mountains. Burrows are constructed in loose soil. Found in elevations greater than 1,500 m.	The project does not occur at elevations where this species lives. Potential to occur is low .
<i>Taxidea taxus</i>	American badger	None None G5 S3 CDFW: SSC, IUCN: LC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Open habitat does not occur on site. Potential to occur is low .
Reptiles				
<i>Anniella stebbinsi</i>	southern California legless lizard	None None G3 S3 CDFW: SSC USFS: S	Broadleaved upland forest, Chaparral, Coastal dunes, Coastal scrub. 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.	Moist soils occur on site and species is a habitat generalist. Potential to occur is high .
<i>Arizona elegans occidentalis</i>	California glossy snake	None None G5T2 S2 CDFW: SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Soils on site are sandy loam and loose, and species is a habitat generalist. Potential to occur is moderate .
<i>Aspidoscelis tigris stjegeeri</i>	coastal whiptail	None None G5T5 S3 CDFW: SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	Open habitat does not occur on site. Potential to occur is low .
<i>Charina umbratica</i>	southern rubber boa	None Threatened G2G3 S2S3 USFS: S	Meadow & seeps, Riparian forest, Riparian woodland, Upper montane coniferous forest, Wetland. Known from the San Bernardino and San Jacinto mtns; found in a variety of montane forest habitats. Snakes resembling <i>C. umbratica</i> reported from Mt. Pinos and Tehachapi mtns group with <i>C. bottae</i> based on mtDNA. Further research needed. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	The project site occurs at the base of the San Bernardino Mountains and does not contain montane habitat. Potential to occur is low .

Federal State Listing Other Listings				
Scientific Name	Common Name	Federal State Listing Other Listings	Habitat	Occurrence Potential
<i>Phrynosoma blainvillii</i>	coast horned lizard	None None G3G4 S3S4 BLM: S CDFW: SSC IUCN: LC	Chaparral , Cismontane woodland , Coastal bluff scrub , Coastal scrub , Desert wash , Pinon & juniper woodlands , Riparian scrub , Riparian woodland , Valley & foothill grassland Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Species is a habitat generalist, nut microhabitat conditions required are not on site. Potential to occur is low .
<i>Thamnophis hammondi</i>	two-striped gartersnake	None None G4 S3S4 BLM: S CDFW: SSC IUCN: LC USFS: S	Marsh & swamp, Riparian scrub, Riparian woodland, Wetland. Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Riparian habitat occurs on site; standing water occurs further down from project site.. Potential to occur is moderate .
Insects				
<i>Bombus crotchii</i>	Crotch bumble bee	None Candidate Endangered G3G4 S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. Potential to occur is low .
<i>Bombus morrisoni</i>	Morrison bumble bee	None None G4G5 S1S2 IUCN: VU	From the Sierra-Cascade ranges eastward across the intermountain west. Food plant genera include Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melilotus.	Suitable habitat for this species does not occur on site. Potential to occur is low .
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	None None G3G4T1 S1	Lower montane coniferous forest. Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mtns, San Bernardino Co, 5000-6000 ft. Hostplants are Streptanthus bernardinus & Arabis holboellii var pinetorum; larval foodplant is Descurainia richardsonii.	The site does not occur at elevations where this species lives. Potential to occur is low .
Amphibians				
<i>Rana draytonii</i>	California red-legged frog	Threatened None G2G3 S2S3 CDFW: SSC IUCN: VU	Aquatic , Artificial flowing waters , Artificial standing waters , Freshwater marsh , Marsh & swamp , Riparian forest , Riparian scrub , Riparian woodland , Sacramento/San Joaquin flowing waters , Sacramento/San Joaquin standing waters , South coast flowing waters , South coast standing waters , Wetland Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	The microhabitat conditions required for this species are not present on site. Potential to occur is low .

Federal State Listing Other Listings				
Scientific Name	Common Name	Federal State Listing Other Listings	Habitat	Occurrence Potential
<i>Rana muscosa</i>	southern mountain yellow-legged frog	Endangered Endangered G1 S1 CDFW: WL IUCN: EN USFS: S	Aquatic, mountain creeks, lakes, streams, and pools in sunny areas. Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino mountains (southern DPS). Northern DPS was determined to warrant listing as endangered, Apr 2014, effective Jun 30, 2014. Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	The microhabitat conditions for this species are not present on site. Potential to occur is low .
<i>Spea hammondi</i>	western spadefoot	None None G3 S3 BLM: S CDFW: SSC IUCN: NT	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	The vernal nature of their required habitat is not present on site. Potential to occur is low .
Fish				
<i>Catostomus santaanae</i>	Santa Ana sucker	Threatened None G1 S1 AFS: TH IUCN: VU	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Water in the project footprint is not year-round and habitat in the footprint is not clear waters with rubble/boulder bottoms. Potential to occur is low .
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	None None G5T1 S1 AFS: TH CDFW: SSC USFS: S	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Shallow cobble/gravel riffles are not on site. The microhabitat requirements for this species do not occur on site. Potential to occur is low .
Habitats				
Riversidian Alluvial Fan Sage Scrub		None None G1 S1.1	Coastal scrub	Habitat is not on site.
Southern Mixed Riparian Forest		None None G2 S2.1	Riparian forest	Habitat is not on site.
Southern Sycamore Alder Riparian Woodland		None None G4 S4	Riparian woodland	Habitat is not on site.

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.

S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.

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.

S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.

S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

1A = Plants presumed extirpated in California and either rare or extinct elsewhere.

1B = Plants rare, threatened, or endangered in California and elsewhere.

2A = Plants presumed extirpated in California, but common elsewhere.

2B = Plants rare, threatened, or endangered in California, but more common elsewhere.

3 = Plants about which more information is needed; a review list.

4 = Plants of limited distribution; a watch list.

Threat Ranks:

.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

FIGURES

**SITE
PHOTOGRAPHS**



Photo 1.



Photo 2.

Photo 3.



Photo 4.



Photo 5.

