Natural Environment Study

(Minimal Impacts)

Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project

City of Santa Ana, Orange County, California

District 12 - Orange
BRLS 5063(184)

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STATE OF CALIFORNIA
Department of Transportation

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Summary

The City of Santa Ana, in conjunction with the California Department of Transportation, proposes to widen Fairview Street between 9th Street and 16th Street, including replacing the Fairview Street bridge over the Santa Ana River.

The purpose of the project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and 16th Street, consistent with the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element.

A Biological Study Area (BSA) was established to identify potential Project effects on specific sensitive biological resources and encompasses the Project direct impact areas (temporary and permanent) as well as a buffer area to account for any potential proximity effects (e.g., noise, vibration, dust, or lighting) that may occur outside the direct impact areas. The BSA is composed entirely of developed areas, with ornamental plantings and other urban vegetation generally considered to be of low value to native plant and wildlife species. No sensitive natural communities or wetlands occur within the BSA. No listed plant or animal species are expected to occur within the BSA or be adversely affected by the Project. To minimize the potential for impacts to nesting birds protected under the California Fish and Game Code, surveys for active bird nests are recommended within 3 days prior to commencement of vegetation removal or ground disturbance activities during the bird nesting season (February 1 to September 30). Because suitable bat roosting habitat is present in the existing Fairview Street bridge, several measures are recommended to avoid, reduce, and/or compensate for potential impacts on roosting bats associated with the proposed bridge demolition and construction activities.

The Project would replace the existing Fairview Street bridge over the Santa Ana River, which is considered a jurisdictional waterway. As such, the Project would require permit authorizations from the United States Army Corps of Engineers, Regional Water Quality Control Board, and/or the California Department of Fish and Wildlife.

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List of Abbreviated Terms

°F	degrees Fahrenheit
ac	acre/acres
amsl	above mean sea level
BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of Santa Ana
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
DPS	distinct population segment
EO	Executive Order
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot/feet
GIS	geographic information system
HA	habitat absent
HP	habitat present
IPAC	Information, Planning, and Conservation System
MBTA	Migratory Bird Treaty Act
mi	mile/miles
MOU	Memorandum of Understanding

NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries Service
OHWM	ordinary high water mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PS&E	Plans, Specifications, and Estimate
RWQCB	Regional Water Quality Control Board
SART	Santa Ana River Trail
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1. Introduction

The City of Santa Ana (City), in conjunction with the California Department of Transportation (Caltrans) District 12, proposes to widen Fairview Street between 9th Street and 16th Street, including replacing the Fairview Street bridge crossing over the Santa Ana River (Project) in Santa Ana, California. The purpose of the project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and 16th Street, consistent with the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element.

South of 9th Street, Fairview Street provides three lanes in each direction which are reduced to two lanes in each direction north of 9th Street, across the existing four-lane bridge, to 16th Street. The Fairview Street segment between 9th Street and 16th Street is the only constraint for Fairview Street to be built out to its planned width of six lanes. This condition causes a traffic "bottleneck" during peak hours. In addition, there are no sidewalks, bikeways, or lighting on the existing bridge. Pedestrians and bicyclists currently use the roadway shoulder to cross the bridge.

Within the project limits, Fairview Street is bordered by single-family residences and a few commercial properties.

1.1. Project History

1.1.1. Project Purpose and Need

The Project Area has a history of traffic congestion; however, the Project would improve traffic flow and alleviate congestion in this area. The Project would also increase pedestrian safety at Fairview Street bridge by constructing new barrier rails, sidewalks, bicycle lanes, a raised median, and lighting on the proposed bridge structure.

1.1.1.1. PURPOSE

The purpose of the Project is to improve pedestrian/bicyclist safety and traffic flow on and in the vicinity of Fairview Street bridge. The following goals/objectives have been identified for the Project:

- Provide for adequate vehicular capacity and greater pedestrian and bike safety on Fairview Street bridge; and
- Make the Fairview Street bridge design and capacity consistent with the Orange County Master Plan of Arterial Highways and the City of Santa Ana (City) General Plan Circulation Element.

1.1.1.2. NEED

The existing Fairview Street bridge has insufficient safety barriers and capacity to handle existing and projected traffic levels in the Project Area and is operating with the following deficiencies:

- No sidewalks, bike lanes, center median or barrier, or lighting
- Congestion on and around the existing bridge due to high traffic demands and a limited number of lanes relative to areas north and south of the bridge

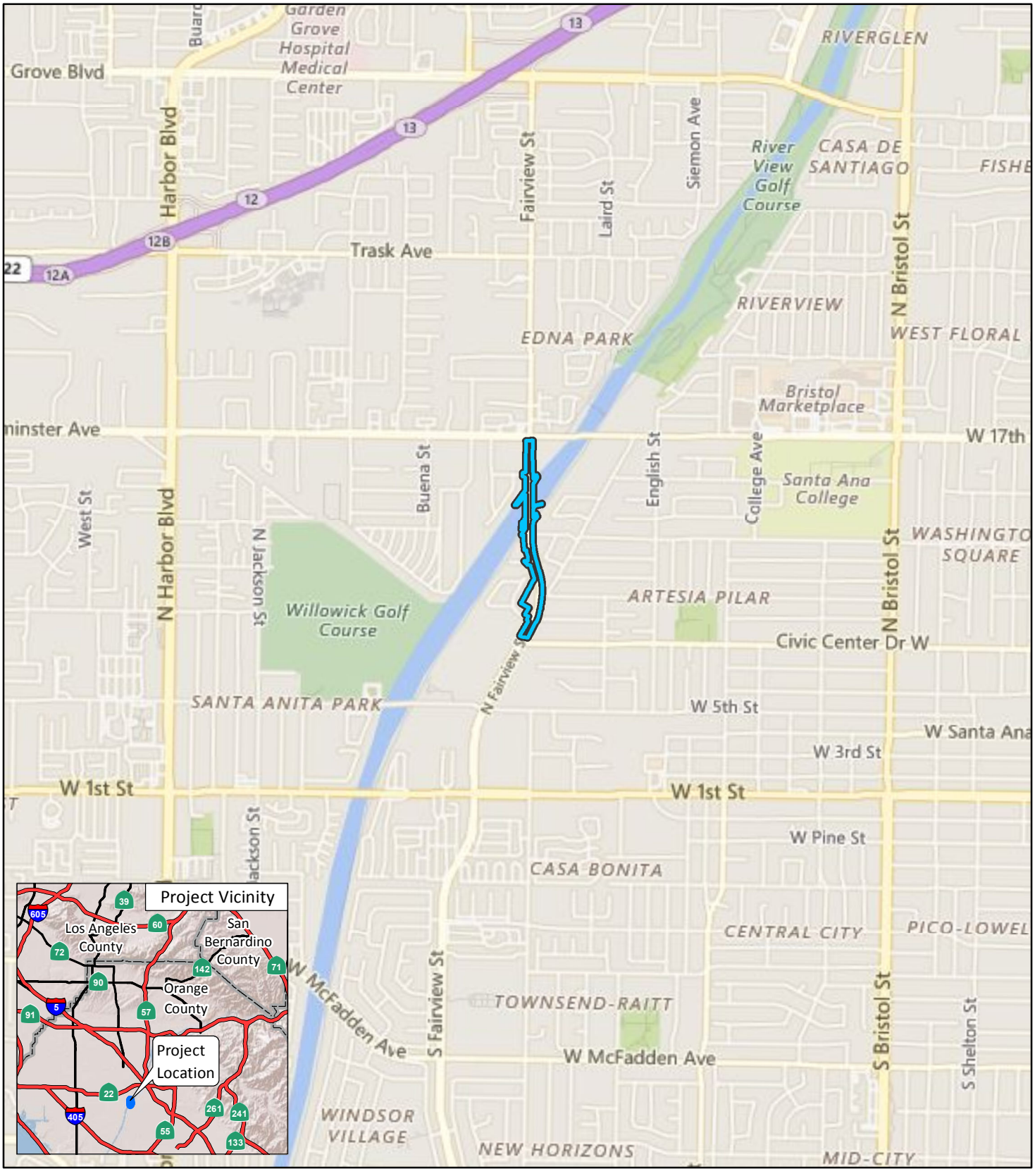
1.2. Project Description

The Project includes widening Fairview Street between 9th Street and 16th Street, including replacing the Fairview Street bridge crossing over the Santa Ana River (refer to Figure 1 for the Project Location). The Project would widen Fairview Street from two lanes in each direction to three lanes in each direction. Fairview Street bridge would be replaced with a new six-lane bridge (three lanes in each direction), including a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting. Figure 2 shows the location of each Project component as well as the Biological Study Area (BSA) established to identify potential Project effects on specific sensitive biological resources and encompasses the Project direct impact areas (temporary and permanent) as well as a buffer area to account for any potential proximity effects (e.g., noise, vibration, dust, or lighting) that may occur outside the direct impact areas.

The proposed bridge would be expanded from approximately 52 feet (ft) to 100 ft in width, and would have the same roadway profile as the existing bridge. The eight pier walls that support the existing bridge would be removed, and four new pier walls would be constructed to support the new bridge.

The Project would acquire partial right-of-way take from three parcels (two commercial parcels [Assessor's Parcel Numbers (APNs) 405-213-02 and 405-213-01] and one single-family residence [APN 405-213-14]), as shown in Figure 2.

An existing 12-inch water line and a bank of 12 phone conduits cross the Santa Ana River, suspended under the deck of the existing bridge. These utilities would need to be temporarily relocated during construction and then permanently relocated to the new bridge.



LEGEND

Project Location

FIGURE 1

Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project

Project Location

0 1000 2000

FEET

SOURCE: Bing (2015)

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LEGEND

- Biological Study Area (BSA)
- Proposed Right of Way Acquisition
- Proposed Roadway Widening
- Reconstruction of Access Road
- Potential Detour in River
- Grading / Revegetation / BMPS
- Construction Staging Area
- Proposed Construction Access
- Potential Noise Barriers
- Proposed Roadway Modifications
- Proposed Bridge Piers

0 100 200
FEET

SOURCE: Google (2016); WKE (2018)

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FIGURE 2

Fairview Street Improvements
from 9th Street to 16th
Street and Bridge Replacement Project

Biological Study Area

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Water quality best management practices (BMPs) would be included to treat stormwater runoff such as a vegetated swale adjacent to Fairview Street in the Fairview Triangle rest area.

Fairview Street would remain open during the construction period with two southbound lanes and one northbound lane, with lanes shifted to one side of the bridge while the other side is replaced. Therefore, no detours would be required for vehicles traveling along Fairview Street. Access to properties would be maintained.

During construction, pedestrians and bikes would be detoured away from the Fairview Street bridge to the 17th Street bridge to cross the Santa Ana River by way of the Santa Ana River Trail (SART) between the hours of 9:00 a.m. and 7:00 p.m., when the gates to the SART are open and unlocked. After hours, pedestrians and bicyclists who wish to cross the Santa Ana River would be detoured to adjacent City streets such as King Street.

Construction of the Project would require temporary closure of a portion of the SART for the demolition and placement of the bridge superstructure. The SART includes a Class I bike path on the eastern side and a regional riding and hiking trail on the western side. The portion of the SART affected by project construction would need to be temporarily closed four times for approximately 8 hours each time during two summer periods for the placement of precast concrete girders. During these periods, SART users would be detoured and signage would be provided to display the dates of the closures and to identify the detour routes. Work on the north and south sides of the bridge would be completed during separate periods so that SART users can be detoured to the trail on the opposite side of the Santa Ana River at 5th Street. There are gates and ramps located on both sides of the SART at 5th Street that provide access to bicyclists and pedestrians for these detours. Details regarding the detours are being coordinated with Orange County Parks. Other short-term closures of up to 15 minutes would be allowed with flagmen.

A temporary detour within the river bed may be required as a contingency. This would involve construction of dirt and gravel ramps with asphalt topping to and from the SART and the river bed as shown on Figure 2.

Construction vehicles would access the Santa Ana River from the gate and ramp at the County of Orange access road at the northwest corner of the bridge, and would use the existing concrete access ramp into the river approximately 250 ft west of the Project Area (Figure 2). All access roads to the SART that are utilized by

construction vehicles or for detour routes would be reconstructed and restored to pre-construction conditions or better prior to project completion. Construction is currently scheduled to start in the spring of 2020.

Construction is planned to last approximately 2 years, and no construction activities would last more than 5 years at any individual location.

2. Study Methods

2.1. Regulatory Requirements

2.1.1. Review of Jurisdiction Subject to Section 404 of the Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into waters of the United States. "Waters of the United States" is defined in 33 Code of Federal Regulations (CFR) Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all impoundments of waters mentioned above, (4) all tributaries to waters mentioned above, (5) the territorial seas, and (6) all wetlands adjacent to waters mentioned above.

2.1.2. Review of Jurisdiction Subject to Section 1600 of the California Fish and Game Code

Pursuant to Division 2, Chapter 6, Sections 1600–1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife.

Unlike the USACE, the CDFW regulates not only the discharge of dredged or fill material, but all activities that alter streams and lakes and their associated habitats. These additional areas include some artificial stock ponds and irrigation ditches constructed on uplands and the riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status. In addition, the lateral extent of a streambed may, in some situations, extend to include broader cross-sectional widths of drainages and floodplains above and beyond the area contained within the ordinary high water mark (OHWM), depending on the hydrological regime of a stream or river. For this reason, the dimensions of a CDFW jurisdictional streambed may vary substantially from the measured OHWM within the same stream or river.

2.1.3. Review of Jurisdiction Subject to Section 401 of the Clean Water Act

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., waters of the United States, including any wetlands). The RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

2.1.4. Rivers and Harbors Act of 1899/General Bridge Act of 1946

The Rivers and Harbors Act is a federal law regulating activities that may affect navigation on the nation's waterways, and a discussion of those sections follows.

Sections 9 and 10 of the Rivers and Harbors Act and Section 9 of the General Bridge Act require authorization for structures (including bridges) in or over any navigable waters of the U.S.

Section 14 of the Rivers and Harbors Act (33 United States Code 408), commonly referred to as "Section 408" provides that the Secretary of the Army, on the recommendation of the Chief of Engineers, may grant permission for the temporary occupation or use of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States. Permission from the USACE is required for the use, including modifications or alterations, of any flood control facility work built by the U.S. to ensure that the usefulness of the federal facility is not impaired. The permission for occupation or use is to be granted by the "appropriate real estate instrument in accordance with existing real estate regulations." For USACE facilities, the Section 408 approval, known as Section 408 permit, is required.

2.1.5. Federal Endangered Species Act

Under provisions of Section 7(a)(2) of the Federal Endangered Species Act (FESA), a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the United States Fish and Wildlife Service (USFWS) to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat that may be affected by the Project.

2.1.6. California Endangered Species Act

The California Endangered Species Act (CESA) is administered by CDFW and prohibits the take of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and

Game Code Sections 2050–2089). "Take" means hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Sections 2081 and 2080.1 of the CESA allow CDFW to authorize exceptions to the prohibition of take of State-listed as threatened or endangered plant and animal species for purposes such as public and private development.

2.1.7. Migratory Bird Treaty Act and Executive Order 13186

Native bird species and their parts (including eggs, nests, and feathers) are protected under the Migratory Bird Treaty Act (MBTA) (16 United States Code [USC] 703–712). The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale any migratory bird, its eggs, parts, and nests, except as authorized under a valid permit.[1]

Executive Order (EO) 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs federal agencies "… taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement an MOU with the Fish and Wildlife Service that promotes the conservation of migratory bird populations." On February 2, 2001, the Federal Highway Administration (FHWA) issued guidance on EO 13186 recommending various measures to assist with protecting migratory birds.

2.1.8. Invasive Species

On February 3, 1999, President Clinton signed EO 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "…any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999, directs the use of the State's noxious weed list to define the invasive plants that must be considered as part of the California Environmental Quality Act (CEQA) analysis for a proposed project.

[1] According to the Department of the Interior Solicitor's Opinion M-37050 dated December 22, 2017, the MBTA applies only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs.

2.2. Studies Required

2.2.1. Literature Search

Prior to performing the field survey, existing documentation relevant to the BSA was reviewed. To identify the existence and potential for occurrence of sensitive or special-status plant and animal species in the vicinity of the BSA, federal and state database records were reviewed within the nine United States Geological Survey (USGS) 7.5-minute topographic quadrangles surrounding the BSA, including the *Anaheim*, *Whittier*, *La Habra*, *Yorba Linda*, *Orange*, *Tustin*, *Newport Beach*, *Los Alamitos*, and *Seal Beach* quadrangles. Appendix A provides lists obtained from the following databases:

- **CDFW California Natural Diversity Database (CNDDB) *RareFind 5*:** This database covers special-status plant and animal species as well as special-status natural communities that occur within California. A list of occurrence records was generated on February 15, 2018, for a search area encompassing nine USGS 7.5-minute topographic quadrangles surrounding the BSA. This search was repeated on August 8, 2018, to verify that the latest occurrence records have been incorporated into the analysis.
- **California Native Plant Society (CNPS) *Online Inventory of Rare and Endangered Plants* (CNPS v8-02, 2018):** A list of plant species was generated on February 15, 2018, using a search area encompassing nine USGS 7.5-minute topographic quadrangles surrounding the BSA. This search was repeated on August 8, 2018, to verify that the latest occurrence records have been incorporated into the analysis.
- **Information, Planning, and Conservation System (IPAC), which is administered by the USFWS:** This database provides information about the federally covered resources within the vicinity of a proposed project. USFWS geographic information system (GIS) layers of critical habitat and aquatic resources mapped by the USFWS National Wetlands Inventory were also reviewed (USFWS 2018a). An unofficial USFWS trust resource report was generated for the BSA on February 15, 2018 (USFWS 2018b). An updated trust resource report was generated on October 28, 2018 and is included in Appendix A.
- **National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries), West Coast Region, California Species List Online Tool:** An official species list was received on March 16, 2018. An updated official species list was received on October 28, 2018, and is included in Appendix A.

The nine USGS quadrangles search covered a large, variable geographic and topographic area containing several biological hot spots such as the Newport Back Bay and the foothills of the Santa Ana Mountains, which contain habitat types not found within or around the BSA. The following species identified in the CNDDB records search are not included in Appendix A due to the lack of suitable habitat within and surrounding the BSA: green sea turtle (*Chelonia mydas*), western tidal-flat tiger beetle (*Cicindela gabbii*), sandy beach tiger beetle (*Cicindela hirticollis gravida*), western beach tiger beetle (*Cicindela latesignata latesignata*), senile tiger beetle (*Cicindela senilis frosti*), globose dune beetle (*Coelus globosus*), and wandering saltmarsh skipper (*Panoquina errans*).

2.2.2. Field Reviews

General and focused field surveys were conducted in February and June 2018 to characterize the biological and aquatic resources occurring on the Project site and to ascertain the presence or absence of sensitive plants and animals or the likelihood of their occurrence in the BSA.

Specific field surveys included: (1) a general reconnaissance-level biological resources survey and habitat assessment, (2) a jurisdictional delineation survey, (3) a daytime bat habitat suitability assessment, and (4) a nighttime bat emergence survey conducted during the typical bat maternity roosting season. The methods used during each of these survey efforts are described in the following sections.

2.2.3. Survey Methods

2.2.3.1. Biological Resources Survey and Habitat Assessment

A general reconnaissance-level biological resources survey and habitat assessment was conducted by walking throughout the BSA (Figure 2). The areas directly accessed included areas within the public right-of-way and where permission to enter was granted (e.g., the Santa Ana River). During the course of the survey, the BSA was assessed for the presence of sensitive plant species, vegetation communities, wildlife, and the suitability/quality of habitat. A list of all plant and wildlife species observed or otherwise detected during the surveys is included in Appendix B. Appendix C contains representative site photos taken during the survey.

Plant communities and land cover types were determined in general accordance with categories set forth in the *Orange County Habitat Classification System* (Gray and Bramlet 1992). This system was developed by the County of Orange and is based on the 1986 *Preliminary Description of the Terrestrial Natural Communities of California* by Robert Holland, with some revisions to more clearly define Orange

County habitats and other land cover types. Vegetation communities and land cover types within the BSA were assessed in the field, and a 1″=100′ scale aerial photograph was used to provide locational references.

2.2.3.2. JURISDICTIONAL DELINEATION

Areas of potential jurisdiction were evaluated according to the most current USACE and CDFW regulatory criteria and guidance for the region (USACE 2008a, 2008b, 1992, 1991; Supreme Court of the United States 2006; RWQCB 2004). The boundaries of the potential jurisdictional areas within the BSA were observed in the field and mapped on an aerial photograph (1″ = 100′ scale). Measurements of federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photograph. Appendix D, Jurisdictional Delineation Report, provides further details regarding this survey effort.

2.2.3.3. DAYTIME BAT HABITAT SUITABILITY ASSESSMENT

A daytime bat habitat suitability assessment was conducted to determine whether suitable bat roosting habitat is present in the Fairview Street bridge and immediate vicinity. A 300 ft buffer surrounding the bridge was included because of the potential for indirect impacts from Project-related lighting and/or noise.

During the bat habitat assessment, the underside of the bridge structure was accessed on foot and examined to locate any potential bat roosting sites as well as evaluate the potential for bat foraging and roosting activity in the vicinity of the structure. Potential bat roosting sites were identified by examining the bridge for any structural features (e.g., crevices or recessed spaces) that may be suitable for use as day- or night-roosting habitat. Once identified, these areas were examined with a high-powered spotlight for the presence of bats or bat sign (e.g., guano, urine staining, or vocalizations) that would indicate current or past use of that feature by roosting bats. Because the presence of adjacent foraging habitat increases the desirability of a structure as a potential roost site, potential foraging habitat was also assessed within and immediately adjacent to the structures on the basis of vegetation composition, presence of water, connectivity to other areas providing suitable foraging or roosting habitat, and accessibility.

2.2.3.4. NIGHTTIME BAT EMERGENCE SURVEY

The presence or absence of bat maternity colonies could not be confirmed during the daytime bat habitat suitability assessment because the structures were examined outside the bat maternity season (April 1–August 31). Therefore, a nighttime

emergence survey was conducted on June 15, 2018, in order to determine whether the roosting features identified during the habitat assessment are occupied by special-status bat species or bat colonies.

The survey was initiated one-half hour before sunset and continued until one full hour after sunset. Observers were stationed at vantage points in positions that would optimize visibility of any bats that may exit or enter the roost feature(s) being surveyed, and to correlate the acoustic data recorded with visual observations. Acoustic detectors were placed in locations where they could record any bats emerging from adjacent roost features as well as to detect foraging bats.

2.3. Personnel and Survey Dates

Table 1 provides the survey types, dates, and personnel involved during the survey efforts.

Table 1: Survey Data

Survey Type	Survey Date(s)	Survey Personnel
General Biological Resources Survey and Habitat Assessment	February 20, 2018	Bo Gould and Lonnie Rodriguez
Jurisdictional Delineation	February 20, 2018	Lonnie Rodriguez and Bo Gould
Daytime Bat Habitat Suitability Assessment	February 13, 2018	Jill Carpenter and Heather Monteleone
Nighttime Bat Emergence Survey	June 15, 2018	Jill Carpenter, Heather Monteleone, Lonnie Rodriguez, and Bo Gould

2.4. Agency Coordination and Professional Contacts

No resource agency coordination has occurred to date. No USFWS coordination beyond the IPaC trust resource report is anticipated because there is no habitat for listed species in the BSA. Impacts to potentially jurisdictional waters located within the BSA (e.g., the Santa Ana River channel) would be within the allowable parameters of the USACE Nationwide Permit Program. Future coordination with the USACE, CDFW, and RWQCB would occur due to proposed work in the Santa Ana River channel, which is a known jurisdictional waterway.

2.5. Limitations That May Influence Results

The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations necessarily imposed by the environment. However, due to the experience and qualifications of the consulting biologists involved in the surveys and the lack of

native habitat in the BSA, this limitation is not expected to severely influence the results or substantially alter the findings.

Although information was gathered from the entire BSA, Project effects discussed in this report are considered for biological resources that fall within the Project footprint and in adjacent areas that may be directly or indirectly affected by the Project.

3. Results: Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Study Area

The BSA is located on the *Anaheim, California* 7.5-minute series USGS topographic map (Figure 1). Figure 2 shows the limits of the BSA and provides an aerial view of the Project Area.

The BSA is located in Santa Ana in Orange County along North Fairview Street between West Civic Center Drive and West 17th Street. The 27.32-acre (ac) BSA (shown on Figure 2) encompasses the Project direct impact areas (temporary and permanent) as well as a buffer area to account for any potential proximity effects (e.g., noise, vibration, dust, or lighting) that may occur outside the direct impact areas.

3.1.2. Physical Conditions

The BSA is almost entirely developed with residential, commercial, and transportation uses. Vegetation within the BSA primarily consists of ornamental trees and shrubs, lawns, and several disturbed and barren areas. Fairview Triangle contains ornamentally planted native trees and shrubs, and is located in the central portion of the BSA adjacent to the Santa Ana River.

Elevations range from approximately 80 to 95 ft above mean sea level (amsl) across the entire BSA. The topography of the BSA gently slopes downhill from east to west. The climate is classified as Mediterranean (i.e., arid climate with hot, dry summers and moderately mild, wet winters), with the average annual precipitation being 13.6 inches. Although most of the precipitation occurs from November through March, thunderstorms may occur at other times of the year and can cause high precipitation rates. On average, monthly high temperatures range between 69 degrees Fahrenheit (°F) and 85°F, and monthly low temperatures range between 46°F and 64°F.

The Project is located within the Santa Ana River Watershed, which covers an area of approximately 210 square miles in Orange County. The headwaters of the entire 2,650-square-mile Santa Ana River Watershed begin in the San Bernardino Mountains and cross Riverside and Orange Counties before ultimately entering the Pacific Ocean. Flows within the Santa Ana River can be attributed to storm water runoff, urban runoff, and treated wastewater.

3.1.3. Biological Conditions in the Study Area

The primary vegetation/land cover type in the BSA is classified as developed with four subtypes, including flood control channels, transportation, ornamental landscaping, and disturbed or barren. The BSA is located within urban portions of Santa Ana with no connection to undisturbed or natural lands.

3.1.3.1. FLOOD CONTROL CHANNELS

As discussed in the corresponding *Jurisdictional Delineation Report* (Appendix D), the existing Fairview Street bridge crosses over the Santa Ana River, which has been channelized and lined with concrete within the BSA for flood control purposes.

3.1.3.2. TRANSPORTATION

A large portion of the BSA consists of North Fairview Street and adjacent residential streets. A portion of the SART that crosses under Fairview Street bridge is also located within the BSA.

3.1.3.3. ORNAMENTAL LANDSCAPING

All vegetation within the BSA is ornamentally planted and consists primarily of street trees, ornamental shrubs, and turf grass lawns. As previously mentioned, Fairview Triangle is located in the central portion of the BSA adjacent to the Santa Ana River and contains ornamentally planted native trees and shrubs. All vegetation within the BSA appears to be regularly maintained.

3.1.3.4. DISTURBED OR BARREN

Several areas within the BSA along the SART are classified as disturbed or barren, with bare ground and sparse ruderal/weedy vegetation cover. The weeds in these areas appear to be regularly maintained as part of maintenance work along the SART.

3.1.4. Habitat Connectivity

The highly developed nature of the BSA presents various impediments to wildlife movement, including roads, walls, fences, buildings, and lack of vegetative cover. Furthermore, there are no large open space areas or designated significant ecological

areas in proximity to the BSA. Mammals such as coyote, raccoon, opossum, and skunk have adapted to densely developed urban environments and may utilize the Santa Ana River as a movement corridor; however, the lack of vegetative cover within the concrete channel and high level of anthropogenic disturbance may limit use. Mature ornamental trees may serve as habitat linkages for urban-tolerant bird species.

3.1.5. Regional Species and Habitats and Natural Communities of Concern

3.1.5.1. REGIONAL SPECIES

An unofficial USFWS list of threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the vicinity of the BSA was obtained in February 2018 (Appendix A). An official NOAA Fisheries list was also obtained in March 2018. These lists contain three species (one plant and two wildlife species) that are federally and/or State-listed as endangered or threatened: Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), coastal California gnatcatcher (*Polioptila californica californica*), and Southern California steelhead trout (*Oncorhynchus mykiss irideus*; distinct population segment [DPS]). None of these species are expected to occur within the BSA or to be affected by the Project.

Nine non-listed special-status species have historical records within approximately 3 miles (mi) of the BSA, with the majority of records being over 70 years old (CDFW 2018). Of the special-status species identified in the literature review, only one was observed in the BSA during the field surveys (Cooper's hawk [*Accipiter cooperii*]). Tables 2a and 2b provide respective summaries of the special-status plant and wildlife species that were identified in the literature review as potentially occurring in the general Project Vicinity, their habitat requirements, and rationale regarding their potential to occur within the BSA.

3.1.5.2. HABITATS

USFWS and CNDDB records show no critical habitat or other special-status habitats occurring within or adjacent to the BSA. There are no natural vegetation communities or wetlands occurring within the BSA.

Table 2a: Listed, Proposed, and Special-Status Plant Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
chaparral sand-verbena	*Abronia villosa* var. *aurita*	US: - CA: S2 CNPS: 1B.1	Annual herb. Occurs on sandy soils in chaparral, coastal scrub, and desert dune habitats between 75 and 1600 meters in elevation.	HA	There is one historical occurrence in the vicinity of the BSA, but the population is presumed to be extirpated (CNDDB 1924). Suitable habitat does not occur within the BSA.
aphanisma	*Aphanisma blitoides*	US: – CA: S2 CNPS: 1B.2	Sandy or clay soils on slopes or bluffs near the ocean, usually in coastal bluff scrub, coastal dunes, or coastal scrub, below 305 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Ventura marsh milk-vetch	A*stragalus pycnostachyus* var. *lanosissimus*	US: FE CA: SE CNPS: 1B.1	Perennial herb. Occurs in coastal dunes, coastal scrub, marshes and swamps (edges, coastal salt or brackish) up to 35 meters in elevation.	HA	This perennial herb was not observed during the site survey, and suitable habitat does not occur within the BSA.
Coulter's saltbush	*Atriplex coulteri*	US: - CA: S1/S2 CNPS: 1B.2	Perennial herb. Occurs on alkaline or clay soils in coastal dune, coastal scrub, and valley and foothill grassland habitats up to 460 meters in elevation.	HA	This perennial herb was not observed during the site survey, and suitable habitat does not occur within the BSA.
south coast saltscale	*Atriplex pacifica*	US: – CA: S2 CNPS: 1B.2	Annual herb. Found in alkaline soils in coastal scrub, coastal dunes, coastal playas, and coastal bluff scrub habitats below 140 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Parish's brittlescale	*Atriplex parishii*	US: - CA: S1 CNPS: 1B.1	Annual herb. Occurs on alkaline soils in playas, vernal pools, and chenopod scrub habitats between 25 meters and 1,900 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA and suitable habitat does not occur within the BSA.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	US: - CA: S1 CNPS: 1B.2	Annual herb. Found on alkaline soils in coastal bluff scrub and coastal scrub up to 200 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
intermediate mariposa lily	*Calochortus weedii var. intermedius*	US: - CA: S2 CNPS: 1B.2	Perennial bulbiferous herb. Occurs in chaparral, coastal scrub, and valley and foothill grassland. Often in dry, rocky soils. From 120 to 855 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Table 2a: Listed, Proposed, and Special-Status Plant Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
lucky morning-glory	*Calystegia felix*	US: - CA: S1 CNPS: 1B.1	Annual rhizomatous herb. Occurs in meadows, seeps, and alluvial riparian scrub habitats (sometimes alkaline soils) up to 215 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Lewis' evening-primrose	*Camissoniopsis lewisii*	US: - CA: S4 CNPS: 3	Annual herb. Occurs on sandy and clay soils in coastal scrub, cismontane woodland, and grassland habitats up to 300 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
southern tarplant	*Centromadia parryi* ssp. *australis*	US: - CA: S2 CNPS: 1B.1	Annual herb. Occurs in vernal pools, margins of marshes and swamps, and vernally mesic valley and foothill grasslands, sometimes with saltgrass on alkaline soils. Up to 427 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
salt marsh bird's-beak	*Chloropyron maritimum* ssp. *maritimum*	US: FE CA: CE CNPS: 1B.2	Annual herb (hemiparasitic). Occurs in coastal dune and salt marsh habitats between 0 meter and 30 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	US: FC CA: CE CNPS: 1B.1	Annual herb. Occurs in sandy soils within coastal scrub and grassland habitats between 150 meters and 1,220 meters in elevation.	HA	Presumed extirpated from most of Orange County. Suitable habitat does not occur within the BSA.
many-stemmed dudleya	*Dudleya multicaulis*	US: - CA: S2 CNPS: 1B.2	Perennial herb. Occurs in chaparral, coastal scrub, and valley and foothill grassland usually in heavy, often clayey soils. Up to 722 meters in elevation.	HA	This perennial herb was not observed during the site survey. Suitable habitat does not occur within the BSA.
Laguna beach dudleya	*Dudleya stolonifera*	US: FT CA: CT CNPS: 1B.1	Perennial herb. Rocky areas (generally north-facing sandstone cliffs) up to 260 meters in elevation. Known only from Orange County, California, near Laguna Beach, with most occurrences in Laguna Canyon west of SR-73.	HA	This perennial herb was not observed during the site survey. Suitable habitat does not occur within the BSA.

Table 2a: Listed, Proposed, and Special-Status Plant Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
Santa Ana River woollystar	*Eriastrum densifolium* ssp. *sanctorum*	US: FE CA: CE CNPS: 1B.1	Perennial herb. Occurs on sandy substrates within chaparral and alluvial fan scrub habitats between 91 meters and 610 meters in elevation.	HA	Presumed extirpated from Orange County. Suitable habitat does not occur within the BSA.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	US: - CA: S1 CNPS: 1B.1	Annual/perennial herb. Occurs in coastal scrub, valley and foothill grassland, and vernal pools between 65 meters and 620 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Los Angeles sunflower	*Helianthus nuttallii* ssp. *parishii*	US: - CA: SH CNPS: 1A	Perennial rhizomatous herb. Occurs in marshes and swamps (coastal salt and freshwater) between 10 meters and 1,525 meters elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA. Species is presumed extinct.
smooth tarplant	*Hemizonia pungens* ssp. *laevis*	US: - CA: S2 CNPS: 1B.1	Annual herb. Occurs on alkaline substrates within chenopod scrub, meadows and seeps, playas, riparian woodland, and grassland habitat up to 640 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
vernal barley	*Hordeum intercedens*	US: CA: S3/S4 CNPS: 3.2	Annual herb. Occurs in coastal dunes, coastal scrub, Valley and foothill grassland (saline flats and depressions), and vernal pools between 5 meters and 1,000 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
decumbent goldenbush	*Isocoma menziesii* var. *decumbens*	US: - CA: S2 CNPS: 1B.2	Perennial shrub. Occurs in chaparral, coastal scrub (sandy, often in disturbed areas) between 10 meters and 135 meters in elevation.	HA	This perennial shrub was not observed during the site survey. Suitable habitat does not occur within the BSA.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	US: - CA: S2 CNPS: 1B.1	Annual herb. Occurs in marshes and swamps, playas, and vernal pools up to 1,220 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
mud nama	*Nama stenocarpa*	US: - CA: S1/S2 CNPS: 2B.2	Annual/perennial herb. Occurs in marshes and swamps (lake margins, riverbanks) between 5 meters and 500 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Table 2a: Listed, Proposed, and Special-Status Plant Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
Gambel's water cress	*Nasturtium gambelii*	US: FE CA: CT CNPS: 1B.1	Perennial rhizomatous herb. Occurs in marshes and swamps (freshwater or brackish) between 5 meters and 330 meters in elevation.	HA	There is one historical occurrence in the vicinity of the BSA, but the population is presumed to be extirpated (CNDDB 1927). Suitable habitat does not occur within the BSA.
prostrate vernal pool navarretia	*Navarretia prostrata*	US: - CA: S2 CNPS: 1B.1	Annual herb. Occurs on mesic soils in coastal scrub, meadows and seeps, vernal pools, and valley and foothill grassland habitats between 3 meters and 1,210 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
coast woolly-heads	*Nemacaulis denudate* var. *denudate*	US: - CA: S2 CNPS: 1B.2	Annual herb. Occurs in coastal dunes between 0 meter and 100 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
California Orcutt grass	*Orcuttia californica*	US: FE CA: CE CNPS: 1B.1	Annual herb. Occurs in vernal pool habitats between 15 meters and 660 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
south coast branching phacelia	*Phacelia ramosissima* var. *austrolitoralis*	US: CA: S3 CNPS: 3.2	Perennial herb. Usually occurs on sandy substrates within chaparral and coastal scrub, dune, and marsh habitats up to 300 meters in elevation.	HA	This perennial herb was not observed during the site survey, and suitable habitat does not occur within the BSA.
Allen's pentachaeta	*Pentachaeta aurea* ssp. *allenii*	US: - CA: S1 CNPS: 1B.1	Annual herb. Occurs in chaparral and coastal scrub openings and valley grassland habitats from 75 meters to 520 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Brand's star phacelia	*Phacelia stellaris*	US: - CA: S1 CNPS: 1B.1	Annual herb. Occurs in coastal dune and coastal scrub habitats up to 400 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Sanford's arrowhead	*Sagittaria sanfordii*	US: - CA: S3 CNPS: 1B.2	Perennial rhizomatous herb (emergent). Occurs in marshes and swamps (assorted shallow freshwater) from 0 meter to 650 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
chaparral ragwort	*Senecio aphanactis*	US: - CA: S2 CNPS: 2B.2	Annual herb. Occurs in chaparral, coastal scrub, and cismontane woodland habitats up to 800 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Table 2a: Listed, Proposed, and Special-Status Plant Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
salt spring checkerbloom	*Sidalcea neomexicana*	US: - CA: S2 CNPS: 2B.2	Perennial herb found in alkaline and mesic soils within chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas from 15 meters to 1530 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
estuary seablite	*Suaeda esteroa*	US: - CA: S2 CNPS: 1B.2	Perennial herb found in coastal marshes and swamps up to 5 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
San Bernardino aster	*Symphyotrichum defoliatum*	US: - CA: S2 CNPS: 1B.2	Perennial rhizomatous herb. Occurs near ditches, springs, and streams in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, mashes and swamps, and grasslands between 2 meters and 2,040 meters in elevation.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Status:
- CCS = NCCP Conditionally Covered Species
- CE = California Endangered
- CFP = California Fully Protected Species
- CSA = California Special Animal
- CSP = California Special Plant
- CT = California Threatened
- FC = Federal Candidate
- FD = Federal Delisted
- FE = Federal Endangered
- FP, FPE, FPT = Federal Proposed
- FT = Federal Threatened
- IS = NCCP Identified Species
- S1 = Critically Imperiled
- S2 = Imperiled
- S3 = Vulnerable
- S4 = Apparently Secure
- SH = Historical Records
- SSC = California Species of Special Concern
- TS = NCCP Target Species

CNPS Designations:
- 1B = Rare threatened, or endangered in California and elsewhere
- 2B = Rare, threatened, or endangered in California, but not elsewhere
- 3 = Not very endangered in California
- 4 = Plants of Limited Distribution – Watch List

Abbreviation/Acronym Definitions:
- BSA = Biological Study Area
- CA = California
- CNPS = California Native Plant Society
- NCCP = Natural Communities Conservation Plan
- SR-73 = State Route 73
- US = United States

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
INVERTEBRATES					
crotch bumble bee	*Bombus crotchii*	US: - CA: CSA	Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Feeds on *Antirrhinum* ssp., *Phacelia* ssp., *Clarkia* ssp., *Dendromecon* ssp., *Eschscholzia* ssp., and *Eriogonum* ssp.	HA	There is a historical occurrence record in the vicinity of the BSA (CNDDB 1942), but most suitable habitat containing food plant species has been developed and the species is likely extirpated from the area.
San Diego fairy shrimp	*Branchinecta sandiegonensis*	US: FE CA: -	Endemic to vernal pools in Orange and San Diego Counties. Usually appears in late fall, winter, and spring when rains fill the small, shallow, seasonal pools.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
monarch butterfly (California overwintering population)	*Danaus plexippus*	US: - CA: CSA	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (e.g., eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
AMPHIBIANS					
western spadefoot	*Spea hammondii*	US: - CA: SSC	Occurs primarily in grassland and other relatively open habitats. Found in elevations ranging from sea level to 4,500 feet. Requires temporary pools for breeding.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
REPTILES					
southern California legless lizard	*Anniella stebbinsi*	US: - CA: SSC	Occurs in coastal sand dunes, sandy washes, and alluvial fans. Prefers moist warm loose soil with plant cover. Moisture is essential.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
orange-throated whiptail	*Aspidoscelis hyperythra*	US: - CA: CSA	Inhabits low-elevation coastal scrub, chaparral, and valley hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food, termites.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
coastal whiptail	*Aspidoscelis tigris stejnegeri*	US: - CA: SSC	Occurs in deserts and semiarid areas with sparse vegetation. Often found in woodland and riparian areas.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
red diamond rattlesnake	*Crotalus ruber*	US: - CA: SSC	Associated with chaparral, woodland, grassland, and desert communities from Los Angeles County to Baja California Sur. Prefers rocky areas with dense vegetation. Needs rodent burrows, cracks in rocks, or surface cover objects for shelter.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
western pond turtle	*Emys marmorata*	US: - CA: SSC	Occurs in a variety of habitats, including woodland, grassland, and open forest. Thoroughly aquatic, existing in good-quality ponds, marshes, rivers, streams, and irrigation ditches that have rocky or muddy bottoms. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
coast horned lizard	*Phrynosoma blainvillii*	US: - CA: SSC	Occurs in CSS, open chaparral, riparian woodland, and annual grassland habitats that support adequate prey species.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
coast patch-nosed snake	*Salvadora hexalepis virgultea*	US: - CA: SSC	Occurs in semi-arid brushy habitats (CSS), chaparral, rocky hillsides, and plains.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
BIRDS					
Cooper's hawk (nesting)	*Accipiter cooperii*	US: - CA: CSA	Nests in a wide variety of woodland and forest habitats.	HP	The species was observed foraging over the BSA and perching on nearby trees during the February 20, 2018 site survey. Suitable nesting habitat (mature trees) is limited in the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
tricolored blackbird (nesting colony)	*Agelaius tricolor*	US: - CA: SSC	Highly colonial nester largely endemic to California. Most numerous in the Central Valley and vicinity. Requires open water, protected nesting substrate, and a foraging area with insect prey within a few kilometers of the colony.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	US: - CA: CSA	Resident in Southern California CSS and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
grasshopper sparrow (nesting)	*Ammodramus savannarum*	US: - CA: SSC	Occurs in dense grasslands, preferring native grasslands with a mixture of forbs and shrubs.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
Great blue heron (nesting colony)	*Ardea herodias*	US: - CA: CSA	Found in freshwater and saltwater marsh habitats. Also forages in grasslands and agricultural fields. Most breeding colonies are located near feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	HA	While individuals may forage along the Santa Ana River, suitable nesting colony habitat is absent in the BSA.
long-eared owl	*Asio otus*	US: - CA: SSC	Occurs in dense coniferous or deciduous forest habitats, often near more open foraging habitat.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
burrowing owl (burrow sites and some wintering sites)	*Athene cunicularia*	US: - CA: SSC	Burrows in open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent on burrowing mammals, most notably the California ground squirrel.	HA	There are no known occurrences in the general vicinity of the BSA, and suitable habitat does not occur within the BSA. No small mammal burrows were observed within one vacant lot located partially within the BSA.
ferruginous hawk (wintering)	*Buteo regalis*	US: - CA: CSA	Found in open country in western North America; migrates north to Canada in summer and south to Mexico in winter.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
Swainson's hawk	*Buteo swainsoni*	US: - CA: CT	Found in open habitats (e.g., grasslands, sage flats and prairies) in western North America; migrates south to Argentina during the winter.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
coastal cactus wren (San Diego and Orange counties only)	*Campylorhynchus brunneicapillus sandiegensis*	US: - CA: SSC	Occurs in CSS habitats. Requires tall *Opuntia* cactus for nesting and roosting.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
western snowy plover	*Charadrius alexandrinus nivosus*	US: FT CA: SSC	Occurs on barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, river bars, along alkaline or saline lakes, reservoirs, and ponds.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
western yellow-billed cuckoo (nesting)	*Coccyzus americanus occidentalis*	US: FT CA: CE	Nests in expansive riparian forest habitats along the broad lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods with understory of blackberry, nettle, or grape.	HA	There is one historical (nonspecific) occurrence record in the general vicinity of the BSA, although the species is presumed extirpated from this area (CNDDB 1918). Suitable habitat does not occur within the BSA.
yellow rail	*Coturnicops noveboracensis*	US: - CA: SSC	Occurs in shallow marshes and wet meadows. During winter, may occupy drier freshwater and brackish marshes as well as dense, deep grass and rice fields.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
white-tailed kite	*Elanus leucurus*	US: - CA: FP	Breeds in riparian trees such as oaks, willows, and cottonwoods in lower-elevation areas, particularly coastal valleys and plains. Forages in open areas and grasslands.	HA	There are no known occurrences in the vicinity of the BSA, and suitable nesting habitat does not occur within the BSA. Suitable foraging habitat is limited within the BSA.
southwestern willow flycatcher	*Empidonax traillii extimus*	US: FE CA: CE	Occurs in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes and reservoirs.	HA	There are no known occurrences in the vicinity of the BSA, and suitable nesting habitat does not occur within the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
California horned lark	*Eremophila alpestris actia*	US: - CA: CSA	Occurs in open grasslands, farmlands, prairies, airports, beaches, golf courses, cemeteries, and parks.	HP	There are no known occurrences in the vicinity of the BSA, but some open areas within the BSA are considered marginally suitable habitat for this species.
American peregrine falcon	*Falco peregrinus anatum*	US: FD CA: CFP	Occurs in open habitats, usually near water. Generally requires cliffs, very tall buildings, or similar situations for nesting.	HA	There is a nonspecific occurrence record in the general Project Vicinity (CNDDB 2015); however, suitable nesting habitat is absent from the BSA. Suitable foraging habitat is limited within the BSA.
yellow-breasted chat	*Icteria virens*	US: - CA: SSC	Summer breeding resident usually found in dense riparian thickets, bramble bushes, clearcuts, powerline corridors, and shrubs along streams.	HA	There are no known occurrences in the vicinity of the BSA and suitable habitat does not occur within the BSA.
California black rail	*Laterallus jamaicensis coturniculus*	US: - CA: CT, CFP	Nests in tidal salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	HA	There is one historical (nonspecific) occurrence record of a migrating individual in the general Project Vicinity (CNDDB 1896); however, there are no recent occurrence records, and suitable nesting habitat is absent from the BSA.
osprey	*Pandion haliaetus*	US: - CA: CSA	Occurs near sources of shallow, fish-filled water, including rivers, lakes, reservoirs, lagoons, swamps, and marshes.	HA	There are no known occurrences in the general vicinity of the BSA, and suitable habitat is largely absent from the BSA.
Belding's savannah sparrow	*Passerculus sandwichensis beldingii*	US: - CA: CE	Found in open areas with low vegetation, including most of northern North America from tundra to grassland, marsh, and farmland.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
coastal California gnatcatcher	*Polioptila californica*	US: FT CA: SSC	Obligate, permanent resident of coastal sage scrub habitats below 2,500 feet in elevation in southern California.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
light-footed Ridgway's rail	*Rallus longirostris levipes*	US: FE CA: CE, CFP	Occurs in select coastal marsh habitats in Southern California.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
bank swallow	*Riparia*	US: - CA: CT	Occurs in low areas along rivers, streams, ocean coasts, or reservoirs. Nesting colonies require tall vertical cliffs, bluffs, or similar situations such as sand/gravel quarries or road cuts.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
black skimmer	*Rynchops niger*	US: - CA: SSC	Occurs on open sandy beaches, gravel or shell bars with sparse vegetation, or along the margins of saltmarsh habitats. Occasionally found at inland lakes such as the Salton Sea.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
yellow warbler	*Setophaga petechia*	US: - CA: SSC	Requires habitats with riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests. Frequently found nesting and foraging in willow shrubs and thickets and in other riparian plants, including cottonwoods.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
California least tern	*Sternula antillarum browni*	US: FE CA: CE, CFP	Nests on beaches, mudflats, and sand dunes, usually near shallow estuaries and lagoons with access to the near open ocean. In southern California, known breeding habitats include Seal Beach, San Pedro Bay, Camp Pendleton, and Ballona Creek.	HA	There are no known occurrences in the vicinity of the BSA, and suitable habitat does not occur within the BSA.
least Bell's vireo (nesting)	*Vireo bellii pusillus*	US: FE CA: CE	Occurs in moist thickets and riparian areas that are predominantly composed of willow and mulefat.	HA	There are no known occurrences in the vicinity of the BSA, and suitable nesting habitat does not occur within the BSA.
MAMMALS					
pallid bat	*Antrozous pallidus*	US: - CA: SSC	Varied habitats including grasslands, shrublands, woodlands, deserts, and forest. Primarily day roosts in bridges, hollows or crevices of trees, or buildings. Occasionally roosts in mines, caves, and cliff/rock crevices.	HP	Known to frequently roost in bridges. Foraging habitat is present along the Santa Ana River in the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
Mexican long-tongued bat	*Choeronycteris mexicana*	US: - CA: SSC	In California, occasionally found in San Diego County. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves as well as in and around buildings.	HA	There are no known occurrences in the vicinity of the BSA, and the species is not known in California outside of San Diego County.
western mastiff bat	*Eumops perotis californicus*	US: - CA: SSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral communities. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	HP	There is a historical (nonspecific) occurrence record in the general vicinity of the BSA (CNDDB 1949). Although only marginally suitable roosting habitat is present in the Fairview Street bridge, some suitable foraging habitat is present in the BSA, and this species is known to forage over large distances from roost sites.
silver-haired bat	*Lasionycteris noctivagans*	US: - CA: CSA	Most commonly found in boreal or coniferous and deciduous forest near bodies of water, such as rivers, lakes, streams, estuaries or ponds. Forages over streams, ponds, and open brushy areas. Roosts in hollow trees beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	HA	There are no known occurrences in the general vicinity of the BSA, and suitable tree roosting habitat is largely absent from the BSA.
hoary bat	*Lasiurus cinereus*	US: - CA: CSA	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	HP	There are no known occurrences in the general vicinity of the BSA, but some suitable roosting habitat (mature trees) is present in the BSA. Foraging habitat is present along the Santa Ana River.
western yellow bat	*Lasiurus xanthinus*	US: – CA: SSC	Occurs in southern California in palm oases and in residential areas with untrimmed palm trees. Roosts primarily in trees, especially the dead fronds of palm trees. Forages over water and among trees.	HP	There are no known occurrences in the general vicinity of the BSA, but some suitable roosting habitat (palm trees) is present in the BSA. Foraging habitat is present along the Santa Ana River.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	US: – CA: SSC	Occurs in a variety of habitats including open areas or semi-open country, typically in grasslands, agricultural fields or sparse coastal scrub communities.	HA	Not expected. There are no known occurrences in the general vicinity of the BSA, and suitable habitat is largely absent from the BSA.
south coast marsh vole	*Microtus californicus stephensi*	US: – CA: SSC	Inhabits tidal marsh habitats along coastal southern California.	HA	Not expected. There are no known occurrences in the general vicinity of the BSA, and suitable habitat does not occur within the BSA.
Yuma myotis	*Myotis yumanensis*	US: - CA: CSA	Common and widespread in California. Found in a wide variety of habitats in elevations ranging from sea level to 11,000 feet. Optimal habitats are open forests and woodlands with sources of water over which to feed.	HP	While not directly observed, suitable roosting habitat is present (Fairview Street bridge hinges/crevices) and guano consistent with that from this species was observed under the bridge.
pocketed free-tailed bat	*Nyctinomops femorasacca*	US: – CA: SSC	Spotty distribution in California, ranging from Southern California south to the Baja Peninsula, and through southwestern Arizona to at least central Mexico. In California, typically found in rocky, desert areas with relatively high cliffs.	HP	The species is very rare in Orange County, and the BSA is near the northern limit of the species' known range. Some foraging habitat is present along the Santa Ana River, and this species is known to forage over large distances from roost sites. Roosting in BSA not expected.
big free-tailed bat	*Nyctinomops macrotis*	US: – CA: SSC	Inhabits low-lying arid areas in Southern California. Needs high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	HP	The species is very rare in Orange County, and the BSA is near the northwestern limit of the species' known range. Some foraging habitat is present along the Santa Ana River, and this species is known to forage over large distances from roost sites. Roosting in BSA not expected.
pacific pocket mouse	*Perognathus longimembris pacificus*	US: FE CA: CE	Inhabits friable soils along the narrow coastal plains from the northern Mexican border to Los Angeles County.	HA	Not expected. There are no known occurrences in the general vicinity of the BSA, and suitable habitat is largely absent from the BSA.

Table 2b: Listed, Proposed, and Special-Status Animal Species Potentially Occurring or Known to Occur in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	General Habitat Description	Habitat Present/Absent	Rationale
Southern California saltmarsh shrew	*Sorex ornatus salicornicus*	US: - CA: SSC	Occurs in select salt marsh and coastal wetland habitats.	HA	Not expected. There are no known occurrences in the general vicinity of the BSA, and suitable habitat does not occur within the BSA.
American badger	*Taxidea taxus*	US: - CA: SSC	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.	HA	Not expected. There are no known occurrences in the general vicinity of the BSA, and suitable habitat does not occur within the BSA.
FISHES					
Santa Ana sucker	*Catostomus santaanae*	US: FT CA: -	Found in select shallow streams with sand, gravel or cobble bottoms. Known only from the Los Angeles, San Gabriel, and upper Santa Ana River Basins in Southern California.	HA	Not expected. There are no known occurrences in the general vicinity of the BSA, and suitable habitat does not occur within the BSA. Considered extirpated from the Santa Ana River within the BSA.
Southern California steelhead (Distinct Population Segment)	*Oncorhynchus mykiss irideus*	US: FE CA: CSA	Federal listing refers to naturally spawned anadromous *O. mykiss* (steelhead) originating below natural and man-made impassable barriers from the Santa Maria River to the U.S.-Mexico Border.	HA	Considered extirpated from the Santa Ana River within the BSA due to modifications for flood control purposes (e.g., concrete lining).

Status:
- CE = California Endangered
- CFP = California Fully Protected Species
- CSA = California Special Animal
- CSP = California Special Plant
- CT = California Threatened
- FC = Federal Candidate
- FD = Federal Delisted
- FE = Federal Endangered
- FP, FPE, FPT = Federal Proposed
- FT = Federal Threatened
- SSC = California Species of Special Concern

Abbreviation/Acronym Definitions:
- BSA = Biological Study Area
- CA = California
- CSS = coastal sage scrub
- HA = Habitat Absent
- HP = Habitat Present
- US = United States

Day- and night-roosting habitats for several special-status bat species are present within the Fairview Street bridge over the Santa Ana River. Although no bats were observed day roosting within the structure during the daytime habitat assessment, roosting activity was confirmed by the presence of guano beneath the hinge crevices.

Because the bat habitat suitability assessment was performed outside of the bat maternity season, and given the suitability of the crevice habitat observed at this structure for maternity roosting, a follow-up nighttime survey will need to be performed at this location during the summer months (i.e., June–August) in order to confirm whether this structure serves as a maternity roost and to determine the numbers and species of any bats roosting there. No additional studies are required for the Project.

4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1. Habitats and Natural Communities of Special Concern

Habitats are considered to be of special concern based on: (1) federal, State, and/or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals.

There are no habitats or natural communities of concern within or immediately adjacent to the BSA. The BSA is composed entirely of developed areas, with some ornamental and weedy vegetation. The BSA has low biological value to native plant and wildlife species.

4.1.1. Discussion of Jurisdictional Waters

Section 404 of the CWA and Section 1602 of the California Fish and Game Code regulate activities affecting resources under the jurisdiction of the USACE and the CDFW, respectively. “Waters of the U.S.” under the jurisdiction of the USACE include navigable coastal and inland waters, lakes, rivers, and streams and their tributaries; interstate waters and their tributaries; wetlands adjacent to such waters; intermittent streams; and other waters that could affect interstate commerce.

The BSA contains one jurisdictional drainage feature (the Santa Ana River), as discussed in further detail in the corresponding *Jurisdictional Delineation Report* (Appendix D).

4.1.1.1. SURVEY RESULTS

The Santa Ana River within the BSA is an unvegetated, concrete-lined intermittent drainage feature. This channel conveys flows attributed to local urban runoff and seasonal storm water. The low-flow channel located within the center of the channel bed had standing water at the time of the field survey. The Santa Ana River has an OHWM determined to be 21 ft up from the channel bed. Downstream of the BSA, the channel has a direct nexus to the Pacific Ocean (a navigable water of the U.S.) and is tidally influenced at its mouth. However, the tidal influence does not extend to the BSA, and there are no waters subject to jurisdiction under Section 10 of the Rivers and Harbors Act. There are no wetlands or riparian areas present within the BSA. The total acreage of potential non-wetland USACE jurisdiction within the BSA is 4.18 ac.

Because there is no current publicly issued guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of waters of the U.S. as recommended by the State Water Resources Control Board's *Workplan: Filling the Gaps in Wetland Protection* (2004). RWQCB jurisdiction is considered coincident with USACE jurisdiction (4.18 ac) for purposes of CWA Section 401 certification.

Under California Fish and Game Code Section 1602, the CDFW takes jurisdiction over rivers, streams, and lakes. The State's jurisdiction generally includes the streambed/lakebed to top of bank and to the outer edge of associated riparian vegetation, where present. Within the BSA, California Fish and Game Code aquatic resources extend beyond the OHWM to the top of bank within the trapezoidal portions of the Santa Ana River. There is no associated riparian vegetation within the BSA. The total acreage of potential CDFW streambed jurisdiction within the BSA is 5.55 ac.

4.1.1.2. PROJECT IMPACTS

The Project involves replacing the existing Fairview Street bridge with a wider roadway bridge. As shown on Figure 3, eight existing pier walls within the river banks (totaling approximately 0.09 ac) would be replaced with four new pier walls (totaling approximately 0.05 ac) within delineated USACE/RWQCB and CDFW non-wetland aquatic resources. The total proposed permanent fill is 0.05 ac for USACE/ RWQCB- and CDFW-delineated aquatic resources. Since the proposed support structures are smaller in area than the existing support structures, a net increase in channel capacity/waters of the U.S. would occur under the Project.

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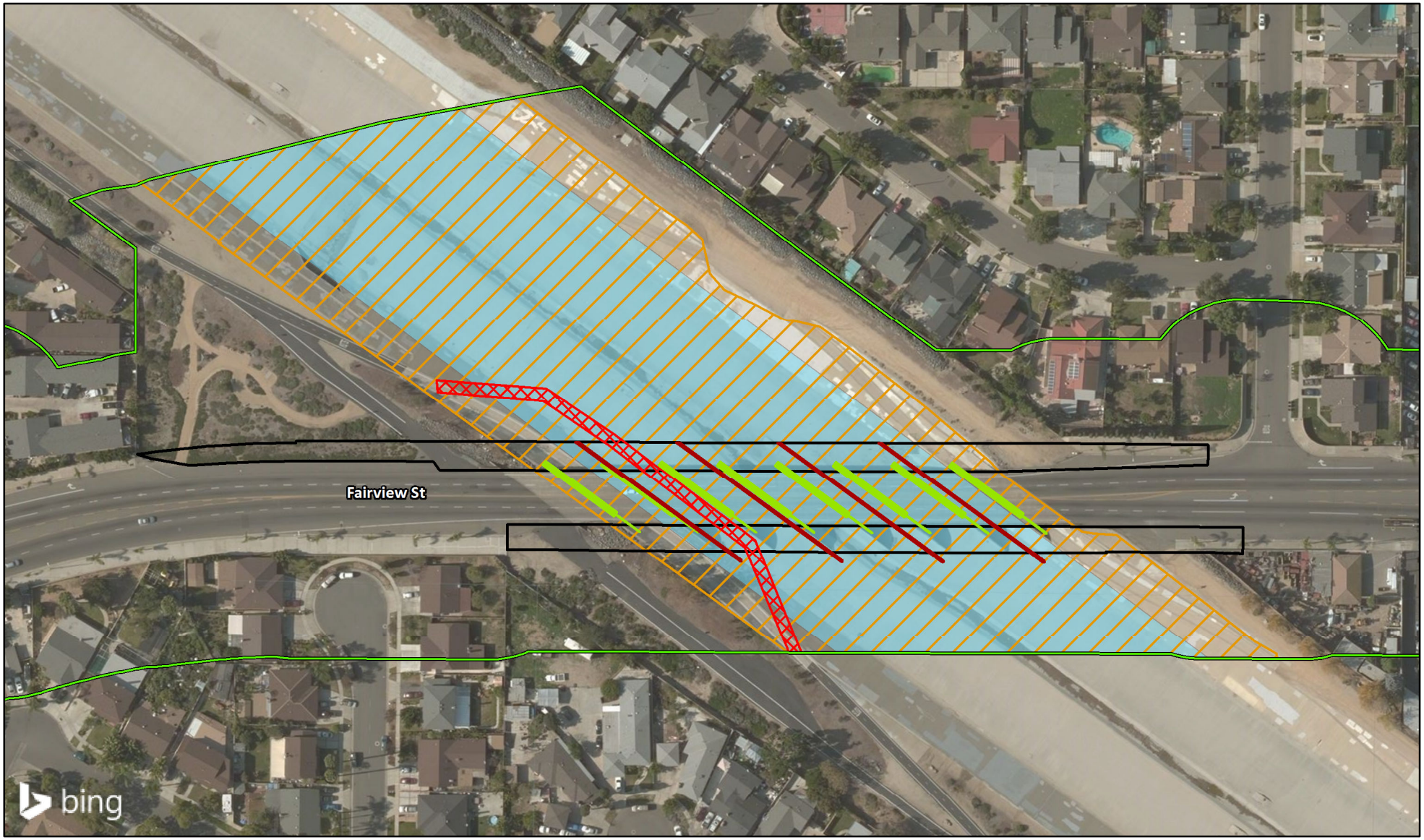

FIGURE 3

LEGEND

- Biological Study Area (BSA)
- Existing Pier Walls (0.09 acres total)
- Proposed Pier Walls (0.05 acres total)
- Potential Detour in River

Note: Potential bike detour footprint is approximate.

- Proposed Roadway Widening

Jurisdictional Delineation Limits

- Corps (4.18 acres)
- CDFW (5.55 acres)

0 68.75 137.5
FEET

SOURCE: Bing (2016)

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Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project

Aquatic Resources

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Specifically, there would be a net decrease of 0.0175 ac of permanent fill within delineated waters of the U.S., and a net decrease of 0.04 ac of permanent fill within delineated CDFW aquatic resources.

As shown on Figure 3, a potential temporary bike detour route would be constructed within the Santa Ana River channel. This potential detour route would be constructed and deconstructed during dry-season work within the channel. The detour route would have a dirt base with an asphalt surface, and would be entirely removed following construction of the Project. Impacts associated with the potential bike detour route shown on Figure 3 would amount to 0.11 ac of temporary fill within delineated waters of the U.S. and 0.13 ac of temporary fill within delineated CDFW aquatic resources. In addition, temporary fills associated with dewatering activities and/or materials staging within the BSA will likely be required to complete the bridge removal and replacement. Such temporary fills would not permanently reduce channel capacity or result in the loss of aquatic resources. Indirect effects such as dust and construction-related runoff are also possible, but such impacts would be effectively avoided or minimized by implementing standard Best Management Practices (BMPs) during construction.

Since work would be occurring within jurisdictional aquatic resources, resource agency permits (USACE Section 404 Nationwide Permit authorization, CDFW Section 1602 Streambed Alteration Agreement, and RWQCB Section 401 Water Quality Certification) will likely be required for the Project. In addition, the Santa Ana River is a USACE facility under Section 14 ("Section 408") of the Rivers and Harbors Act of 1899, so Section 408 permission will also be required for the Project.

4.1.1.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

No compensatory mitigation is required because the Project would not adversely impact any jurisdictional wetlands, riparian areas, or waters of the U.S. A net increase of channel capacity/waters of the U.S. would occur with implementation of the Project. The Project would require compliance with all measures contained in any applicable USACE, RWQCB, and/or CDFW permit.

In order to avoid impacts to aquatic resources within the Santa Ana River and adjacent habitat areas, standard BMPs will be implemented to prevent loose soil or pollutants associated with the Project from inadvertently entering the channel, as detailed in

Measure BIO-1 below. Implementation of Measure BIO-1 will also prevent the spread of invasive plant species that could degrade aquatic habitat areas.

BIO-1 **Best Management Practices (BMPs) During Construction.**
All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in designated upland areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from entering waters of the United States and other jurisdictional waters. Silt fencing and straw wattle will be placed in such a manner that they are able to catch or filter sediment or other construction-related debris to prevent it from entering aquatic areas, where necessary. All construction-related debris and trashed will be disposed of or secured to prevent any such waste from entering aquatic areas.

In order to prevent the spread of invasive species (EO 13112), any plants removed or soil disturbed during the course of construction should be contained and properly disposed off site. All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and any erosion-control BMPs implemented will be free of invasive plant species seeds or propagules. No vegetation listed on the Cal-IPC inventory will be installed on the Project, and all plant palettes proposed for the Project will be reviewed by a Qualified Biologist during the Plans, Specifications, and Estimate (PS&E) phase.

4.1.2. Special-Status Plant Species

The plant species listed in Table 2a are considered to be of special concern based on: (1) federal, State, or local laws regulating impacts to them; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring in the vicinity of the BSA. One plant species (Ventura marsh milk-vetch), which is federally and State-listed as endangered, was identified by the USFWS as potentially occurring within the vicinity of the BSA. The CNDDB indicated three additional special-status plant species (Gambel's water cress, salt spring checkerbloom, and chaparral sand-verbena) with historical occurrences within 3 mi of the BSA. However, all of these historical occurrences are presumed extirpated, and no suitable habitat for these plant species occurs within the BSA.

4.1.2.1. SURVEY RESULTS

No special-status plant species were observed or are expected to occur within the BSA due to a lack of suitable habitat. A list of plant species observed in the BSA during the surveys is included in Appendix B.

4.1.2.2. PROJECT IMPACTS

The Project is not expected to affect any special-status plant species because they are considered absent from the BSA.

4.1.2.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

No compensatory mitigation or minimization measures are warranted because special-status plant species are considered absent from the BSA.

4.1.3. Special-Status Animal Species Occurrences

The animal species listed in Table 2b are considered to be of special concern based on: (1) federal, State, or local laws regulating impacts to them; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring in the vicinity of the site. The coastal California gnatcatcher is the only listed species identified by the USFWS as potentially occurring within the vicinity of the BSA (USFWS 2018b). However, there are no known occurrences of this species within the BSA or immediate vicinity, and suitable habitat for the species is absent from the BSA. The CNDDB indicated six additional special-status wildlife species (coast horned lizard, Crotch bumble bee, western yellow-billed cuckoo, California black rail, American peregrine falcon, and western mastiff bat) with historical occurrences within 3 mi of the BSA. However, most of these historical occurrences are presumed extirpated and, with the exception of marginally suitable habitat for western mastiff bat, suitable habitat for these wildlife species is absent from the BSA.

The BSA contains suitable habitat for two non-listed, special-status avian species identified in the CNDDB records search (Cooper's hawk and California horned lark). The existing Fairview Street bridge also contains suitable roosting habitat for several non-listed, special-status bat species, and foraging habitat for these bat species is present within the BSA along the Santa Ana River. Each of these species are discussed in further detail below.

4.1.4. Discussion of Cooper's Hawk

Cooper's hawk is a medium-sized raptor that occurs in wooded areas and is frequently encountered in urban areas with mature trees and open foraging areas such as parks. It is a California Special Animal, which is an administrative designation made by the CDFW and carries no formal legal status. However, Section 15380 of the CEQA Guidelines indicates that these species should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein. The species is fairly common within the vicinity of the BSA and urban areas that contain large trees and open fields. Several mature ornamental trees located along the streets and residential areas within the BSA serve as potentially suitable nesting habitat for this species.

4.1.4.1. SURVEY RESULTS

Cooper's hawk is the only special-status animal species observed within the BSA during the field surveys. An individual Cooper's hawk was observed flying over the BSA and perching on several large trees during the survey conducted on February 20, 2018. No evidence of nesting by this species was observed in the BSA during the surveys, and mature trees are limited in number within the BSA.

4.1.4.2. PROJECT IMPACTS

The Project is not expected to directly or adversely impact Cooper's hawk because potentially suitable nesting habitat is limited in the BSA, and the removal of ornamental vegetation along North Fairview Street would not impact suitable nesting habitat for this species.

4.1.4.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Impacts to Cooper's hawk and other nesting birds protected under the California Fish and Game Code will be avoided with implementation of Measure BIO-2, as detailed below.

BIO-2 **Nesting Bird Surveys and Avoidance.** If vegetation removal, construction, or grading activities are planned to occur within the nesting bird season (February 1 to September 30), a qualified biologist shall conduct a preconstruction nesting bird survey no more than three (3) days prior to the start of such activities. The nesting bird survey shall include the project site and areas immediately adjacent to the site that could potentially be affected by project-related activities such as

noise, vibration, increased human activity, and dust, etc. For any active nest(s) identified, the qualified biologist shall establish an appropriate buffer zone around the active nest(s). The appropriate buffer shall be determined by the qualified biologist based on species, location, and the nature of the proposed activities. Project activities shall be avoided within the buffer zone until the nest is deemed no longer active by the qualified biologist.

4.1.5. Discussion of California Horned Lark

The California horned lark is a small songbird that is known to occur within the vicinity of the BSA. It is a subspecies of horned lark (*Eremophila alpestris*) and is considered a California Special Animal, which is an administrative designation made by the CDFW and carries no formal legal status. However, Section 15380 of the CEQA Guidelines indicates that these species should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein. The subspecies utilizes open grasslands and fields and prefers bare ground for nesting. Several disturbed or barren areas in the BSA provide potentially suitable habitat for this subspecies, but it is considered marginal because of the proximity to busy urban streets and associated anthropogenic disturbances.

4.1.5.1. SURVEY RESULTS

The field survey was conducted during the breeding season, and no California horned larks were observed in or near the BSA.

4.1.5.2. PROJECT IMPACTS

The Project is not expected to impact the California horned lark because it has a low probability of occurrence in the BSA.

4.1.5.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

During the breeding season, the California horned lark is the only subspecies of horned lark in non-desert Southern California; however, from September through April or early May, other subspecies visit the area. Impacts to the California horned lark will be avoided with implementation of Measure BIO-2.

4.1.6. Discussion of Special-Status Bat Species

As shown in Table 2b, the BSA contains potentially suitable habitat for seven special-status bat species. Two of these species are considered California Special Animals

(Yuma myotis and hoary bat), and the remaining five bat species are California Species of Special Concern (pallid bat, western mastiff bat, western yellow bat, pocketed free-tail bat, and big free-tail bat). "Species of Special Concern" is an administrative designation from the CDFW and carries no formal legal status. However, all bat species (regardless of listing status) and other nongame mammals are protected by California Fish and Game Code Section 4150, which states that all nongame mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the California Fish and Game Commission. Activities resulting in the mortality of nongame mammals (e.g., destruction of an occupied bat roost, resulting in the death of bats) or disturbance that results in the loss of a maternity colony of bats (including the death of young) may be considered a "take" by the CDFW. Furthermore, any structure occupied by a bat maternity colony of any species is considered a native wildlife nursery site that is essential to the viability of local populations.

Many bats use crevices or hollow cavities in bridges and culverts as day roosts and/or the open spaces between bridge beams or girders for night roosting. Bat species that commonly use human-made structures for day and/or night roosting include pallid bat and Yuma myotis. Other species that may use these types of roosts occasionally include western mastiff bat, pocketed free-tail bat, and big free-tail bat, although pocketed free-tail bat and big free-tail bat are more commonly found in rocky desert areas and are considered rare in California. Bats may also roost in trees situated in the vicinity of human-made structures. Although bat roosts in structures can be relatively easy to identify, tree roosts are more cryptic and require close examination. Some species of bats (e.g., western yellow bat and hoary bat) day roost in the foliage of trees. Other bat species (e.g., pallid bat) commonly day roost in crevices or cavities found in mature trees and snags.

Within the BSA, suitable bat roosting habitat is present within the existing Fairview Street bridge, and suitable foraging habitat is present along the Santa Ana River.

4.1.6.1. SURVEY RESULTS

The Fairview Street bridge over the Santa Ana River is a concrete tee beam bridge. This type of bridge contains structural elements that are suitable for and commonly used by both day- and night-roosting bats. Crevice habitat suitable for day-roosting bats (including maternity colonies) is present in the two hinges and in portions of a longitudinal joint near the middle of the structure, while night-roosting habitat is present throughout the bridge structure in the spaces between the concrete girders

(refer to Appendix C, Representative Site Photos). These girders form cavities in the underside of the bridge deck that trap warm air and offer shelter from the wind. Cliff swallow (*Petrochelidon pyrrhonota*) mud nests were also present throughout the girders of the bridge at the time of the assessment. The swallow mud nests may also provide day-roosting habitat for bat species, including Yuma myotis and Mexican free-tailed bats, which have been documented day roosting in swallow mud nests and may use the mud nests observed on the bridge structure.

Although the Santa Ana River is unvegetated and concrete lined in the vicinity of the Fairview Street bridge, water within the channel as well as ornamental vegetation associated with nearby residences provides foraging habitat for a variety of bat species, thereby increasing the likelihood that this structure is used for roosting.

No bats were observed during the daytime habitat assessment or the nighttime emergence survey; however, some scattered guano was observed beneath the hinges, confirming the use of these crevices by individual bats.

A concrete double-box culvert is situated within 300 ft of the Fairview Street bridge over the Santa Ana River. This culvert structure was not entered during the assessment because the entrances to each box were partially gated and because there were indications of human habitation, both of which presented potential safety considerations as well as reducing the likelihood that roosting bats were present.

4.1.6.2. PROJECT IMPACTS

Since the existing Fairview Street bridge over the Santa Ana River will be demolished for the Project, potential direct and indirect impacts to roosting bats may occur. However, there is no evidence of maternity colonies roosting within the BSA. As long as the avoidance and minimization efforts discussed below are implemented, the Project is not expected to adversely impact protected bat species. The new Fairview Street bridge to be constructed under the Project may provide additional roosting habitat for protected bat species.

4.1.6.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

The following measures will be implemented to minimize the potential for take of individual roosting bats and impacts to suitable day- and night-roosting bat habitat within the Fairview Street bridge over the Santa Ana River:

BIO-3 **Bat Eviction/Exclusion.** To avoid direct mortality of individual bats, humane evictions (if bats are present) and exclusions of roosting bats should be performed under the supervision of a CDFW-approved bat biologist prior to bridge demolition activities. Eviction/exclusion activities should be performed in the fall (September or October) prior to bridge demolition. Exclusion activities may be implemented in one or two phases at the discretion of the qualified bat biologist and in coordination with the Project Design Team.

BIO-4 **Alternative Bat Roosting Habitat.** Alternate bat roosting habitat should be incorporated into the design of the new bridge to replace crevice habitat lost from removal of the existing Fairview Street bridge over the Santa Ana River. The specifications for this replacement habitat should be designed in consultation with a qualified bat biologist.

In addition, to avoid potential impacts to bats day roosting in the swallow mud nests at the Fairview Street bridge over the Santa Ana River, the following measure will be implemented:

BIO-5 **Swallow Nest Removal.** If swallow nests are removed to prevent swallows from nesting within the Project Area during construction activities, they should be removed in the fall (i.e., September or October) prior to expected or potential overwintering use by bats, and in a manner that ensures they do not fall to the ground or are otherwise destroyed unless absence of bats is confirmed through inspection by a qualified bat biologist.

To minimize any potential indirect impacts to bats foraging and night roosting at the Fairview Street bridge over the Santa Ana River, the following measures will be implemented:

BIO-6 **Nighttime Lighting During Construction.** To minimize temporary indirect impacts during nighttime work for Project construction within 200 ft of the bridge structures, night lighting shall be used only in the area actively being worked on and focused on the direct area of work, and airspace access to and from the roost features of a structure shall not be obstructed except in direct work areas.

BIO-7 **New Bridge Lighting.** To avoid permanent indirect impacts to roosting and foraging bats, bridge lighting on the new bridge shall be designed and installed in such a way that light overspill into the Santa Ana River and beneath the bridge are limited to the greatest extent practicable.

Since the Project will not affect the culverts and any potential impacts to bats will be avoided by implementing the measures above, no compensatory mitigation is expected to be required.

5. Conclusions and Regulatory Determination

5.1. Federal Endangered Species Act Consultation Summary

An IPAC Trust Resources List was obtained from the USFWS on February 15, 2018, and is provided in Appendix A. A *No Effect* determination has been made for the FESA-listed species identified during the literature review due to the lack of suitable habitats for these species within the BSA. Therefore, no further consultation with the USFWS is anticipated to be required.

5.2. California Endangered Species Act Consultation Summary

The proposed Project is expected to have no impact on CESA-listed species. Therefore, no CESA consultation with the CDFW should be required.

5.3. Essential Fish Habitat Consultation Summary

An official Endangered Species Act Species List was obtained from NOAA Fisheries on March 16, 2018, and is provided in Appendix A. No Essential Fish Habitat is present in the BSA, and a *No Effect* determination has been made for the FESA-listed species identified during the literature review; therefore, no further consultation with NOAA Fisheries is anticipated to be required.

5.4. Wetlands and Other Waters Coordination Summary

The Project involves replacing the existing Fairview Street bridge over the Santa Ana River with a wider roadway bridge. As shown on Figure 3, eight existing pier walls (totaling approximately 0.09 ac) would be replaced with four new pier walls, for a total of 0.05 ac of new permanent fill within delineated USACE/RWQCB and CDFW nonwetland aquatic resources. Since the proposed bridge support structures are smaller in area than the existing support structures, a net increase in channel

capacity/waters of the U.S. would occur under the Project. During construction, temporary fill would be placed within the Santa Ana River channel associated with a potential bike detour route, materials staging and access, and/or dewatering. Such temporary fills would not permanently reduce channel capacity or result in the loss of aquatic resources.

Since work would be occurring within nonwetland jurisdictional aquatic resources associated with the Santa Ana River, resource agency permits (USACE Section 404 Nationwide Permit authorization, CDFW Section 1602 Streambed Alteration Agreement, and RWQCB Section 401 Water Quality Certification) are anticipated to be required for the Project. In addition, the Santa Ana River is a USACE facility under Section 14 ("Section 408") of the Rivers and Harbors Act of 1899, so Section 408 permission will also be required for the Project.

5.5. Nesting Birds

The BSA contains mature ornamental trees and other areas, including the culverts where inactive cliff swallow nests were found, which could provide nesting habitat for native birds. To avoid potential impacts to nesting birds that are protected under the California Fish and Game Code and the MBTA, it is recommended that any necessary vegetation removal be performed outside the bird nesting season (February 1–September 30). If vegetation removal cannot be performed outside the bird nesting season or if construction is scheduled to begin during the nesting season, Measure BIO-2 (refer to Section 4.1.4.3.) will be implemented to avoid adverse impacts to nesting birds.

5.6. Invasive Species

A majority of the plants observed (Appendix B) within the BSA are classified as Invasive Species and listed on the California Invasive Plant Council (Cal-IPC) Inventory Database. Measure BIO-1 (refer to Section 4.1.1.3) contains provisions that will be implemented to prevent the spread of exotic plant species. With implementation of Measure BIO-1, the Project is not expected to disperse exotic plant species seeds or otherwise contribute to the invasion of exotic species into natural habitats.

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Appendix A CNDDB, CNPS, USFWS, and NOAA Fisheries Species Lists

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Anaheim (3311778) OR Whittier (3311881) OR La Habra (3311788) OR Yorba Linda (3311787) OR Los Alamitos (3311871) OR Orange (3311777) OR Seal Beach (3311861) OR Newport Beach (3311768) OR Tustin (3311767))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abronia villosa var. aurita chaparral sand-verbena	PDNYC010P1	None	None	G5T2?	S2	1B.1
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Aimophila ruficeps canescens southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Anniella stebbinsi southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
Aphanisma blitoides aphanisma	PDCHE02010	None	None	G3G4	S2	1B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Asio otus long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
Aspidoscelis hyperythra orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
Aspidoscelis tigris stejnegeri coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
Astragalus pycnostachyus var. lanosissimus Ventura Marsh milk-vetch	PDFAB0F7B1	Endangered	Endangered	G2T1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex coulteri Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
Atriplex pacifica south coast saltscale	PDCHE041C0	None	None	G4	S2	1B.2
Atriplex parishii Parish's brittlescale	PDCHE041D0	None	None	G1G2	S1	1B.1
Atriplex serenana var. davidsonii Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Branchinecta sandiegonensis San Diego fairy shrimp	ICBRA03060	Endangered	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
California Walnut Woodland California Walnut Woodland	CTT71210CA	None	None	G2	S2.1	
Calochortus plummerae Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
Calochortus weedii var. intermedius intermediate mariposa-lily	PMLIL0D1J1	None	None	G3G4T2	S2	1B.2
Calystegia felix lucky morning-glory	PDCON040P0	None	None	G1Q	S1	1B.1
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	ABPBG02095	None	None	G5T3Q	S3	SSC
Catostomus santaanae Santa Ana sucker	AFCJC02190	Threatened	None	G1	S1	
Centromadia parryi ssp. australis southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
Centromadia pungens ssp. laevis smooth tarplant	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Chelonia mydas green turtle	ARAAA02010	Threatened	None	G3	S1	
Chloropyron maritimum ssp. maritimum salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
Choeronycteris mexicana Mexican long-tongued bat	AMACB02010	None	None	G4	S1	SSC
Cicindela gabbii western tidal-flat tiger beetle	IICOL02080	None	None	G2G4	S1	
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
Cicindela latesignata latesignata western beach tiger beetle	IICOL02113	None	None	G2G4T1T2	S1	
Cicindela senilis frosti senile tiger beetle	IICOL02121	None	None	G2G3T1T3	S1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Coelus globosus globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Crotalus ruber red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dudleya multicaulis many-stemmed dudleya	PDCRA040H0	None	None	G2	S2	1B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	PDPLM03035	Endangered	Endangered	G4T1	S1	1B.1
Eryngium aristulatum var. parishii San Diego button-celery	PDAPI0Z042	Endangered	Endangered	G5T1	S1	1B.1
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Helianthus nuttallii ssp. parishii Los Angeles sunflower	PDAST4N102	None	None	G5TH	SH	1A
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Isocoma menziesii var. decumbens decumbent goldenbush	PDAST57091	None	None	G3G5T2T3	S2	1B.2
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lasiurus xanthinus western yellow bat	AMACC05070	None	None	G5	S3	SSC
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lepidium virginicum var. robinsonii Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
Microtus californicus stephensi south coast marsh vole	AMAFF11035	None	None	G5T1T2	S1S2	SSC
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Nama stenocarpa mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Nasturtium gambelii Gambel's water cress	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.1
Nemacaulis denudata var. denudata coast woolly-heads	PDPGN0G011	None	None	G3G4T2	S2	1B.2
Nyctinomops femorosaccus pocketed free-tailed bat	AMACD04010	None	None	G4	S3	SSC
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Orcuttia californica California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Panoquina errans wandering (=saltmarsh) skipper	IILEP84030	None	None	G4G5	S2	
Passerculus sandwichensis beldingi Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
Pentachaeta aurea ssp. allenii Allen's pentachaeta	PDAST6X021	None	None	G4T1	S1	1B.1
Perognathus longimembris pacificus Pacific pocket mouse	AMAFD01042	Endangered	None	G5T1	S1	SSC
Phacelia stellaris Brand's star phacelia	PDHYD0C510	None	None	G1	S1	1B.1
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Polioptila californica californica coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
Rallus obsoletus levipes light-footed Ridgway's rail	ABNME05014	Endangered	Endangered	G5T1T2	S1	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Rynchops niger black skimmer	ABNNM14010	None	None	G5	S2	SSC
Salvadora hexalepis virgultea coast patch-nosed snake	ARADB30033	None	None	G5T4	S2S3	SSC
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sidalcea neomexicana	PDMAL110J0	None	None	G4	S2	2B.2
salt spring checkerbloom						
Sorex ornatus salicornicus	AMABA01104	None	None	G5T1?	S1	SSC
southern California saltmarsh shrew						
Southern California Arroyo Chub/Santa Ana Sucker Stream	CARE2330CA	None	None	GNR	SNR	
Southern California Arroyo Chub/Santa Ana Sucker Stream						
Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
Southern Coast Live Oak Riparian Forest						
Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
Southern Coastal Salt Marsh						
Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
Southern Cottonwood Willow Riparian Forest						
Southern Dune Scrub	CTT21330CA	None	None	G1	S1.1	
Southern Dune Scrub						
Southern Foredunes	CTT21230CA	None	None	G2	S2.1	
Southern Foredunes						
Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
Southern Sycamore Alder Riparian Woodland						
Southern Willow Scrub	CTT63320CA	None	None	G3	S2.1	
Southern Willow Scrub						
Spea hammondii	AAABF02020	None	None	G3	S3	SSC
western spadefoot						
Sternula antillarum browni	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
California least tern						
Suaeda esteroa	PDCHE0P0D0	None	None	G3	S2	1B.2
estuary seablite						
Symphyotrichum defoliatum	PDASTE80C0	None	None	G2	S2	1B.2
San Bernardino aster						
Taxidea taxus	AMAJF04010	None	None	G5	S3	SSC
American badger						
Trigonoscuta dorothea dorothea	IICOL51021	None	None	G1T1	S1	
Dorothy's El Segundo Dune weevil						
Tryonia imitator	IMGASJ7040	None	None	G2	S2	
mimic tryonia (=California brackishwater snail)						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						

Record Count: 100

CNPS Inventory of Rare and Endangered Plants of California 9-Quad Search Area List Generated August 8, 2018				
Scientific Name	**Common Name**	**CRPR**	**CESA**	**FESA**
Abronia villosa var. *aurita*	chaparral sand-verbena	1B.1	None	None
Aphanisma blitoides	aphanisma	1B.2	None	None
Astragalus pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	1B.1	CE	FE
Atriplex coulteri	Coulter's saltbush	1B.2	None	None
Atriplex pacifica	South Coast saltscale	1B.2	None	None
Atriplex parishii	Parish's brittlescale	1B.1	None	None
Atriplex serenana var. *davidsonii*	Davidson's saltscale	1B.2	None	None
Calochortus weedii var. *intermedius*	intermediate mariposa lily	1B.2	None	None
Calystegia felix	lucky morning-glory	1B.1	None	None
Camissoniopsis lewisii	Lewis' evening-primrose	3	None	None
Centromadia parryi ssp. *australis*	southern tarplant	1B.1	None	None
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	1B.2	CE	FE
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	1B.1	CE	FC
Dudleya multicaulis	many-stemmed dudleya	1B.2	None	None
Dudleya stolonifera	Laguna Beach dudleya	1B.1	CT	FT
Eryngium aristulatum var. *parishii*	San Diego button-celery	1B.1	CE	FE
Hordeum intercedens	vernal barley	3.2	None	None
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	1B.1	None	None
Nama stenocarpa	mud nama	2B.2	None	None
Nasturtium gambelii	Gambel's water cress	1B.1	CT	FE
Navarretia prostrata	prostrate vernal pool navarretia	1B.1	None	None
Nemacaulis denudata var. *denudata*	coast woolly-heads	1B.2	None	None
Orcuttia californica	California Orcutt grass	1B.1	CE	FE
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	3.2	None	None
Phacelia stellaris	Brand's star phacelia	1B.1	None	None
Sagittaria sanfordii	Sanford's arrowhead	1B.2	None	None
Senecio aphanactis	chaparral ragwort	2B.2	None	None
Sidalcea neomexicana	salt spring checkerbloom	2B.2	None	None
Suaeda esteroa	estuary seablite	1B.2	None	None
Symphyotrichum defoliatum	San Bernardino aster	1B.2	None	None

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Orange County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

Coastal California Gnatcatcher Polioptila californica californica There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened

Flowering Plants

NAME	STATUS
Ventura Marsh Milk-vetch Astragalus pycnostachyus var. lanosissimus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1160	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

Costa's Hummingbird Calypte costae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

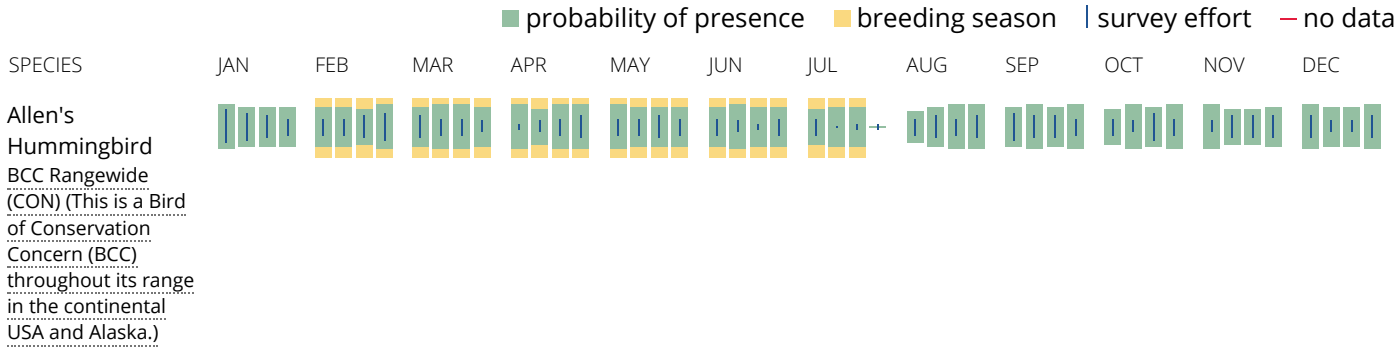
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

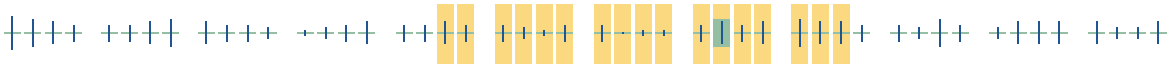
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

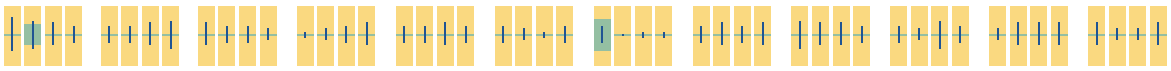
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



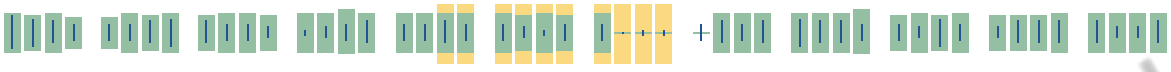
Black Skimmer
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Clark's Grebe
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

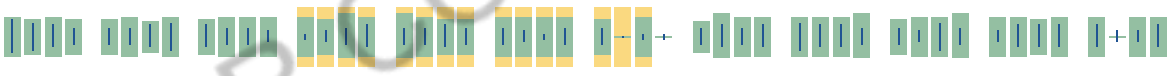


Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



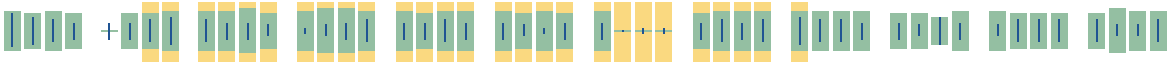
Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

- R2USCr
- R2UBHr

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Bo Gould

From: NMFSWCRCA Specieslist - NOAA Service Account <nmfswcrca.specieslist+canned.response@noaa.gov>
Sent: Sunday, October 28, 2018 11:58 AM
To: Bo Gould
Subject: RE: Caltrans: Fairview Street Widening and Bridge Replacement Official Species List Request

Receipt of this message confirms that NMFS has received your email to nmfswcrca.specieslist@noaa.gov. If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page (http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

NOAA Fisheries Species List
Generated October 28, 2018

Quad Name **Anaheim**
Quad Number **33117-G8**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

NOAA Fisheries Species List
Generated October 28, 2018

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

NOAA Fisheries Species List
Generated October 28, 2018

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

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Appendix B List of Plant and Wildlife Species Observed

B.1 Vascular Plant Species Observed

The following vascular plant species were observed in the BSA by LSA biologists on February 20, 2018. Additional plant species may be present on private properties within the BSA.

* Introduced species not native to California

GYMNOSPERMS	
Cupressaceae	**Cypress Family**
* *Cupressus sempervirens*	Italian cypress
Pinaceae	**Pine Family**
* *Pinus* sp.	pine species
EUDICOTS	
Adoxaceae	**Moschatel Family**
Sambucus nigra ssp. *caerulea*	blue elderberry
Aizoaceae	**Iceplant Family**
* *Carpobrotus edulis*	hottentot-fig
* *Mesembryanthemum crystallinum*	crystalline iceplant
Apiaceae	**Carrot Family**
* *Foeniculum vulgare*	Sweet fennel
Asteraceae	**Sunflower Family**
Artemisia californica	California sagebrush
Baccharis pilularis	coyote brush
Baccharis salicifolia	mulefat
Encelia californica	California bush sunflower
Encelia farinosa	brittlebush
Erigeron canadensis	Canadian horseweed
* *Hedypnois cretica*	Crete weed
Isocoma menziesii	Menzies' goldenbush
* *Sonchus asper*	sow thistle
* *Taraxacum officinale*	common dandelion
Bignoniaceae	**Catalpa Family**
* *Jacaranda mimosifolia*	blue jacaranda

Boraginaceae		**Borage Family**
*	*Echium candicans*	pride of madeira
	Eriodictyon crassifolium	thick leaved yerba santa
Chenopodiaceae		**Goosefoot Family**
*	*Atriplex semibaccata*	Australian saltbush
*	*Chenopodium album*	lamb's quarters
*	*Salsola tragus*	Russian-thistle
Crassulaceae		**Stonecrop Family**
*	*Crassula ovata*	jade plant
Euphorbiaceae		**Spurge Family**
*	*Euphorbia maculata*	spotted spurge
Fabaceae		**Pea Family**
*	*Acacia longifolia*	golden wattle
*	*Trifolium repens*	white clover
Geraniaceae		**Geranium Family**
*	*Erodium cicutarium*	redstem filaree
Lamiaceae		**Mint Family**
	Salvia apiana	white sage
*	*Salvia officinalis*	kitchen sage
Lythraceae		**Loosestrife Family**
*	*Lagerstroemia indica*	crape myrtle
Malvaceae		**Mallow Family**
*	*Malva parviflora*	cheeseweed
Moraceae		**Mulberry Family**
*	*Ficus benjamina*	weeping fig
Nyctaginaceae		**Four O'clock Family**
*	*Bougainvillea spectabilis*	bougainvillea
Oxalidaceae		**Wood Sorrel Family**
*	*Oxalis pes-caprae*	Bermuda buttercup
Platanaceae		**Plane Tree Family**
*	*Platanus hybrida*	London plane tree
Polygonaceae		**Buckwheat Family**
	Eriogonum fasciculatum	California buckwheat
Rosaceae		**Rose Family**
	Heteromeles arbutifolia	toyon
Rutaceae		**Citrus Family**
*	*Citrus* spp.	orange and lemon trees

Salicaceae		**Willow Family**
	Populus fremontii	Freemont cottonwood
	Salix lasiolepis	arroyo willow
Simaroubaceae		**Quassia Family**
*	*Ailanthus altissima*	tree of heaven

MONOCOTS

Araceae		**Arum Family**
*	*Colocasia esculenta*	taro root
Arecaceae		**Palm Family**
*	*Syagrus romanzoffiana*	Queen palm
*	*Washingtonia robusta*	Mexican fan palm
Poaceae		**Grass Family**
*	*Cynodon dactylon*	Bermuda grass
*	*Festuca myuros*	rattail fescue
*	*Hordeum murinum*	foxtail barley
	Muhlenbergia rigens	deergrass

Taxonomy and scientific nomenclature generally conform to Baldwin, B.G., D.H. Goldman et al., eds. (2012; The Jepson Manual: Vascular Plants of California, 2nd edition; University of California Press, Berkeley and Los Angeles, California).

Common names for each taxa generally conform to Roberts, F.M., Jr. (2008; The Vascular Plants of Orange County, California: An Annotated Checklist; F.M. Roberts Publications, San Luis Rey, California) except where Abrams, L. (1923, 1944, and 1951; Illustrated Flora of the Pacific States: Washington, Oregon, and California, vols. I–III; Stanford University Press, Stanford, California) and Abrams, L. and Ferris, R.S. (1960; Illustrated Flora of the Pacific States: Washington, Oregon, and California, vol. IV; Stanford University Press, Stanford, California) were used, particularly when species-specific common names were not identified in Roberts, F.M., Jr. (2008).

B.2 Animal Species Detected

This is a list of the wildlife species noted in the BSA by LSA biologists. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

* Species not native to California

INSECTA	**INSECTS**
Apidae	**Bees**
* *Apis mellifera*	European honey bee
Lycaenidae	**Gossamer-winged Butterflies**
Brephidium exilis	western pigmy blue
Hesperiidae	**Skippers**
Polites sabuleti	sandhill skipper
REPTILIA	**REPTILES**
Iguanidae	**Iguanas**
Sceloporus occidentalis	western fence lizard
AVES	**BIRDS**
Anatidae	**Ducks, Geese, and Swans**
Anas platyrhynchos	mallard
Columbidae	**Pigeons and Doves**
* *Columba livia*	rock pigeon
Zenaida macroura	mourning dove
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	black phoebe
Tyrannus verticalis	western kingbird
Corvidae	**Crows and Jays**
Corvus corax	common raven
Laridae	**Gulls, Terns, and Skippers**
Larus californicus	California gull
Mimidae	**Thrashers, Mockingbirds, and Tremblers**
Mimus polyglottos	northern mockingbird
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	cliff swallow

Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Parulidae	**New World Warblers**
Setophaga coronata	yellow-rumped warbler
Fringillidae	**Fringilline and Cardueline Finches and Allies**
Haemorhous mexicanus	house finch
Passeridae	**Old World Sparrows**
* *Passer domesticus*	house sparrow
Passerellidae	**New World Sparrows**
Zonotrichia leucophrys	white-crowned sparrow
Accipitridae	**Eagles, Hawks, Kites, Old World Vultures**
Accipiter cooperii	Cooper's hawk
Cathartidae	**New World Vultures and Condors**
Cathartes aura	turkey buzzard
MAMMALIA	**MAMMALS**
Felidae	**Cats**
* *Felis catus*	domestic cat
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher

Taxonomy and nomenclature are based primarily on the following:

- **Damselflies and Dragonflies:** Paulson, D. (2009, Dragonflies and Damselflies of the West, Princeton University Press, Princeton, New Jersey).
- **Butterflies:** North American Butterfly Association (2001, NABA Checklist and English Names of North American Butterflies, Second Edition, North American Butterfly Association, Morristown, New Jersey, 2003 update in American Butterflies 11: 24-27; see http://www.naba.org/pubs/checklst.html).
- **Amphibians and Reptiles:** Crother, B.I. ed. (2017, Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. Eighth Edition. Herpetological Circular 43.) for species taxonomy and nomenclature; AmphibiaWeb (https://amphibiaweb.org/) and The Reptile Database

(www.reptile-database.org/) for higher order taxonomy; see also California Herps (http://www.californiaherps.com/index.html).

- **Birds:** American Ornithological Society (1998, The A.O.U. Checklist of North American Birds, Seventh Edition, American Ornithologists' Union, Washington, D.C.; and supplements; see http://checklist.aou.org/taxa).
- **Mammals:** Bradley, R. D. et al. (2014, Revised Checklist of North American Mammals North of Mexico, 2014. Museum of Texas Tech University Occasional Papers No. 327).

Appendix C Representative Site Photographs

View of the existing Fairview Street Bridge from the top of the north bank of the Santa Ana River channel, facing southwest.

View downstream of the existing Fairview Street Bridge, showing the proposed construction access route on the north side of the Santa Ana River.

Fairview Street Improvements
from 9th Street to 16th
Street and Bridge Replacement Project
Representative Site Photos

Fairview Triangle Park. View facing northeast with installed native shrubs in the foreground and the existing Fairview Street Bridge over the Santa Ana River in the background.

View facing north along Fairview Street towards the bridge, with installed Menzies' goldenbush (*Isocoma menziesii*) along the edges of Fairview Triangle Park to the west.

Fairview Street Improvements
from 9th Street to 16th
Street and Bridge Replacement Project
Representative Site Photos

View of the existing Fairview Street Bridge from the Santa Ana River Trail to the west of the bridge, facing east.

Potentially suitable bat roosting habitat along a hinge in the existing Fairview Street Bridge.

Fairview Street Improvements
from 9th Street to 16th
Street and Bridge Replacement Project
Representative Site Photos

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Appendix D Jurisdictional Delineation Report

JURISDICTIONAL DELINEATION REPORT

FAIRVIEW STREET IMPROVEMENTS

FROM 9TH STREET TO 16TH STREET AND BRIDGE REPLACEMENT PROJECT

SANTA ANA, ORANGE COUNTY, CALIFORNIA

LSA

November 2018

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APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
1987 Manual	*Corps of Engineers Wetlands Delineation Manual*
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
FAC	Facultative
FACW	Facultative Wetland
ft	feet/foot
OBL	Obligate Wetland
OHWM	Ordinary High Water Mark
Porter-Cologne Act	California Porter-Cologne Water Quality Control Act
project	Fairview Street Bridge Replacement Project
Regional Supplement	*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0)
RHA	Rivers and Harbors Act
RWQCB	Regional Water Quality Control Board
TNW	traditionally navigable water
USDA	United States Department of Agriculture
USGS	United States Geological Survey
waters of the U.S.	waters of the United States

INTRODUCTION

The City of Santa Ana (City), in conjunction with the California Department of Transportation, proposes to widen Fairview Street between 9th Street and 16th Street, including replacing the Fairview Street bridge crossing over the Santa Ana River (proposed Project) in Santa Ana, California (see Figure 1—all figures are attached in Appendix A). The purpose of the project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and 16th Street, consistent with the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element.

South of 9th Street, Fairview Street provides three lanes in each direction which are reduced to two lanes in each direction north of 9th Street, across the existing four-lane bridge, to 16th Street. The Fairview Street segment between 9th Street and 16th Street is the only constraint for Fairview Street to be built out to its planned width of six lanes. This condition causes a traffic "bottleneck" during peak hours. In addition, there are no sidewalks, bikeways, or lighting on the existing bridge. Pedestrians and bicyclists currently use the roadway shoulder to cross the bridge.

Within the project limits, Fairview Street is bordered by single-family residences and a few commercial properties.

This Jurisdictional Delineation Report presents a description of the delineation of aquatic resources potentially affected by the project and contains supporting information to be submitted to the appropriate resource agencies during project environmental review and permitting.

SITE DESCRIPTION

The project site is located on the United States Geological Survey (USGS) 7.5-minute *Anaheim, California*, topographical quadrangle series map. Land uses adjacent to the project include residential to the north, south, east, and west. The tops of the Santa Ana River banks are part of the Santa Ana river trail system and are used recreationally.

The Jurisdictional Delineation Limits coincide with the Biological Study Area (BSA) limits and were used to map and assess potentially jurisdictional aquatic resources that could be directly or indirectly affected by the proposed project (see Figure 2). Elevations in the Jurisdictional Delineation Limits range from approximately 80 to 95 feet (ft) above mean sea level. The topography of the Jurisdictional Delineation Limits gently slopes downhill from east to west between 17th Street and 5th Street.

The regional climate is classified as Mediterranean (i.e., arid climate with hot, dry summers and moderately mild, wet winters). The average annual precipitation is 13.6 inches. Although most of the precipitation occurs from November through March, thunderstorms may occur at other times of the year and can cause extremely high precipitation rates. On average, monthly high temperatures range between 69 degrees Fahrenheit (°F) and 85°F, and monthly low temperatures range between 46°F and 64°F.

The Jurisdictional Delineation Limits are within the Santa Ana River Watershed, which covers an area of approximately 210 square miles in Orange County. The headwaters of the entire 2,650-square-mile Santa Ana River Watershed begin in the San Bernardino Mountains and cross Riverside and Orange Counties before ultimately entering the Pacific Ocean. Flows within the Santa Ana River can be attributed to general winter storms and local storms within the Santa Ana River Watershed. Urban runoff and wastewater treatment plants also contribute to flows within the Santa Ana River.

REGULATORY BACKGROUND

UNITED STATES ARMY CORPS OF ENGINEERS

The United States Army Corps of Engineers (Corps) regulates discharges of dredged or fill material into waters of the United States (waters of the U.S.). These waters include wetland and nonwetland bodies of water that meet specific criteria. Corps regulatory jurisdiction pursuant to Section 404 of the Clean Water Act (CWA) is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditionally navigable waters (TNWs) used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations. The following definition of waters of the U.S. is from 33 Code of Federal Regulations (CFR) 328.3:

> The term waters of the United States means:
>
> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce … ;
>
> (2) All interstate waters including interstate wetlands;
>
> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) … the use, degradation or destruction of which could affect interstate or foreign commerce … ;
>
> (4) All impoundments of waters otherwise defined as waters of the United States under the definition; and
>
> (5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section.

The Corps typically regulates as waters of the U.S. any body of water displaying an Ordinary High Water Mark (OHWM). Corps jurisdiction over nontidal waters of the U.S. extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined 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 area" (33 CFR 328.3). Corps jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

As discussed above, Corps regulatory jurisdiction under Section 404 of the CWA is founded on a connection between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with TNW used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations. In the past, an indirect nexus could potentially be established if isolated waters provided habitat for migratory birds, even in the absence of a surface connection to navigable water of the U.S. The 1984 rule that enabled the Corps to expand jurisdiction over isolated waters of this type became known as the Migratory Bird Rule. On January 9, 2001, the United States Supreme Court narrowly limited the

Corps jurisdiction of "… nonnavigable, isolated, intrastate …" waters based solely on the use of such waters by migratory birds and, particularly, the use of indirect indicators of interstate commerce (e.g., use by migratory birds that cross state lines) as a basis for jurisdiction. The Supreme Court's ruling derives from the case *Solid Waste Agency of Northern Cook County vs. United States Army Corps of Engineers*, No. 99-1178. The Supreme Court determined that the Corps exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in northern Illinois that provided habitat for migratory birds.

In 2006, the United States Supreme Court further considered the Corps jurisdiction of "… waters of the United States …" in the consolidated cases *Rapanos vs. United States* and *Carabell vs. United States* (126 Supreme Court 2208), collectively referred to as "*Rapanos*." The United States Supreme Court concluded that wetlands are "waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. On June 5, 2007, the Corps issued guidance regarding the *Rapanos* decision. After consideration of public comments and agencies' experience, revised guidance was issued on December 2, 2008. This guidance states that the Corps will continue to assert jurisdiction over TNW, wetlands adjacent to TNW, relatively permanent nonnavigable tributaries that have a continuous flow at least seasonally (typically 3 months), and wetlands that directly abut relatively permanent tributaries. The Corps will determine jurisdiction over waters that are nonnavigable tributaries that are not relatively permanent and wetlands adjacent to nonnavigable tributaries that are not relatively permanent only after making a significant nexus finding. The Corps will generally not assert jurisdiction over swales or erosional features, or ditches excavated wholly in and draining only uplands that do not carry a relatively permanent flow of water. However, the Corps does reserve the right to regulate these waters on a case-by-case basis.

Furthermore, the preamble to the Corps regulations at 33 CFR Section 328.3, Definitions, states that the Corps does not generally consider the following waters to be waters of the U.S. (the Corps does, however, reserve the right to regulate these waters on a case-by-case basis):

- Nontidal drainage and irrigation ditches excavated on dry land
- Artificially irrigated areas that would revert to upland if irrigation ceased
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing
- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons
- Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for purposes of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the U.S.

In some cases, waters found to be isolated and not subject to CWA regulation may be regulated by the Regional Water Quality Control Board (RWQCB) under the State's Porter-Cologne Water Quality Control Act (Porter-Cologne Act), as described later in this section.

WETLANDS

Wetland delineations for Section 404 purposes must be conducted according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Regional Supplement) (Corps 2008) and the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Corps 1987). Where there are differences between the two documents, the Regional Supplement takes precedence over the 1987 Manual.

The Corps and the United States Environmental Protection Agency (EPA) define "wetlands" as follows:

> 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 to life in saturated soil conditions.

To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics (three parameters): hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation and hydric soil indicators provide evidence that episodes of inundation have lasted more than a few days or have occurred repeatedly over a period of years, but do not confirm that an episode has occurred recently. Conversely, wetland hydrology indicators provide evidence that an episode of inundation or soil saturation occurred recently, but do not provide evidence that episodes have lasted more than a few days or have occurred repeatedly over a period of years. Because of this, if an area lacks one of the three characteristics under normal conditions, the area is considered nonwetland under most circumstances.

Determination of wetland limits may be complicated by a variety of natural environmental factors or human activities, collectively called "difficult wetland situations," including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables are lowered. This results in a corresponding lowering of the OHWM and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into nonwetland areas. In the highly ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience along with extensive knowledge of local ecological conditions comes into play in delineating wetlands. The Regional Supplement provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation

Hydrophytic 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, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the Corps most current *National Wetland Plant List* (Lichvar, R.W., et al. 2016). Each species on that list is rated according to a wetland indicator category, as shown in Table A. 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 A: Hydrophytic Vegetation

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

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately). When more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the Corps recommends the use of the "50/20" rule (also known as the dominance test) from the Regional Supplement for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species composing 20 percent or more of the total dominance measure for the stratum.

In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling plot. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, Corps guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (Corps 2008). If the plant community passes either the dominance test or the prevalence index after reconsideration of the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils

Hydric soils[1] are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.[2] Soils are considered likely to meet the definition of a hydric soil when one or more of the following criteria are met:

1. All Histels except Folistels and Histosols except Folists;

2. Soils that are frequently ponded for a long duration or very long duration[3] during the growing season; or

3. Soils that are frequently flooded for a long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. Although saturation may occur at any time of year, microbial activity is limited to the growing season, when the soil temperature is above biologic zero (the soil temperature, measured at a depth of 20 inches, below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria, a National List of Hydric Soils was created from the National Soil Information System database and is updated annually.

The Regional Supplement has a number of field indicators that may be used to identify hydric soils. The United States Department of Agriculture (USDA) Natural Resources Conservation Service (Schoeneberger 2002) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, the accumulation of organic matter, and the reduction, translocation, and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Corps 1987). The wetland hydrology parameter is satisfied if the

[1] The hydric soil definition and criteria included in the 1987 Manual are obsolete. Users of the 1987 Manual are directed to the United States Department of Agriculture (USDA) Natural Resources Conservation Service website for the most current information on hydric soils.

[2] Current definition as of 1994 (Federal Register 1994).

[3] A long duration is defined as a single event ranging from 7–30 days. A very long duration is defined as a single event that lasts longer than 30 days.

area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years (Corps 2008).

Hydrology is often the most difficult criterion to measure in the field due to seasonal and annual variations in water availability. Indicators commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

RIVERS AND HARBORS ACT

The Rivers and Harbors Act (33 United States Code 408) is a federal law regulating activities that may affect navigation on the nation's waterways, and a discussion of those sections follows.

Sections 9 and 10 of the Rivers and Harbors Act and Section 9 of the General Bridge Act require authorization for structures (including bridges) in or over any navigable waters of the U.S. Navigable waters of the U.S. are defined as those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Navigable waters are a subset of waters of the U.S., described above. Under Section 10 of the Rivers and Harbors Act (RHA), Corps jurisdiction over navigable waters of the U.S. extends from the ordinary low tide 3 nautical miles seaward ("territorial seas") to the shoreward boundary of jurisdiction which extends to the line on the shore reached by the mean high water. This jurisdiction extends to this edge even though portions of the water body may be extremely shallow and are thus considered "navigable in law" although they may not be navigable in fact (33 CFR 329.12). Work in, over, under, or affecting tidally influenced waters requires authorization under Section 10 of the RHA.

Section 14 of the Rivers and Harbors Act, commonly referred to as "Section 408" provides that the Secretary of the Army, on the recommendation of the Chief of Engineers, may grant permission for the temporary occupation or use of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States. Permission from the USACE is required for the use, including modifications or alterations, of any flood control facility work built by the U.S. to ensure that the usefulness of the federal facility is not impaired. The permission for occupation or use is to be granted by the "appropriate real estate instrument in accordance with existing real estate regulations." For USACE facilities, the Section 408 approval, known as Section 408 permit, is required.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The California Department of Fish and Wildlife (CDFW), through provisions of the California Fish and Game Code (Section 1600 et seq.), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

In obtaining CDFW agreements, the limits of wetlands are not typically determined. This is because the CDFW generally includes, within the jurisdictional limits of streams and lakes, any riparian

habitat present. Riparian habitat includes willows, mule fat, and other vegetation typically associated with the banks of a stream or lake shorelines and may not be consistent with Corps definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet Corps criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream, away from frequently saturated soils).

REGIONAL WATER QUALITY CONTROL BOARD

The California RWQCB is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the Corps (i.e., waters of the U.S., including any wetlands). The RWQCB may also assert authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Act.

METHODOLOGY

The fieldwork for the jurisdictional delineation was conducted by field biologists Lonnie Rodriguez and Bo Gould on February 20, 2018. Potential federal and State jurisdictional features located in the Jurisdictional Delineation Limits were evaluated on foot and using aerial photographs.

Areas of potential jurisdiction were evaluated according to the most current Corps and CDFW regulatory criteria and guidance. The boundaries of the potential jurisdictional areas within the Jurisdictional Delineation Limits were observed in the field and mapped on an aerial photograph with a scale of 1 inch = 100 ft. Measurements of federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photograph.

Areas supporting plant species that were potentially indicative of wetlands would have been evaluated according to routine wetland delineation procedures described in the Regional Supplement, but none were present within the Jurisdictional Delineation Limits. Hydrological conditions, including any surface inundation, saturated soils, scour marks, and/or other wetland hydrology indicators were also noted. General site characteristics were also noted throughout all potential jurisdictional areas, and photographs of potentially jurisdictional areas were taken (see Figure 3).

RESULTS

Based on close examination of historical and recent aerial photography and fieldwork, the consultant biologists identified one major drainage feature occurring in the Jurisdictional Delineation Limits (i.e. the Santa Ana River). Site-specific conditions and channel measurements were collected and the drainage feature was mapped.

Within the Jurisdictional Delineation Limits is the Fairview bridge, a continuous nine span bridge with reinforced concrete pier walls (see Figure 3 Representative Site Photos). The Santa Ana River conveys an intermittent flow under the bridge and is concrete lined within the Jurisdictional Delineation Limits. The channel bed is 180 feet wide and in the center of the channel is a linear low flow concave channel. The banks are 41 feet in height on the east and the west sides. The tops of the banks are earthen or asphalt and make up the Santa Ana River trail.

The Santa Ana River channel is entirely devoid of vegetation within the Jurisdictional Delineation Limits. The vegetation at the top of the banks is ornamental and appears to be regularly maintained along the Santa Ana River trail system. No other jurisdictional features were identified within the Jurisdictional Delineation Limits. No sample point was dug; the entire section of the Santa Ana River within the Jurisdictional Delineation Limits is lined with concrete.

UNITED STATES ARMY CORPS OF ENGINEERS JURISDICTION

Non-Wetland Waters of the United States

The Santa Ana River within the Jurisdictional Delineation Limits is a concrete-lined intermittent drainage feature. This drainage conveys flows attributed to local urban runoff and from seasonal storms. The low-flow channel located within the center of the channel bed had standing water at the time of the survey. The Santa Ana River contained an OHWM that was determined to be 21 feet up from the channel bed. Three measurements were taken within the trapezoidal channel of the Santa Ana River to determine the OHWM. The first measurement was from the toe-of-slope to the edge of the bike path under the bridge (19 ft), the second measurement was from the toe-of-slope to the horizontal terrace located up the bank (27.2 ft), and the third measurement was from the toe-of slope to the top of bank (43.2 ft). Using the three measurements and Google Earth historical imagery, the OHWM was determined to be 21 ft. The river has a direct nexus to the Pacific Ocean, a navigable water of the U.S., and is tidally influenced at its mouth. However, the tidal influence does not extend to the Jurisdictional Delineation Limits, and there are no waters subject to jurisdiction under Section 10 of the RHA. No wetlands were identified within the Jurisdictional Delineation Limits.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

Jurisdictional Streambeds

This intermittent concrete-lined drainage feature is defined by the presence of a channel bed and bank, and therefore, CDFW would consider the entire feature to the top of the bank to be jurisdictional.

CONCLUSIONS

UNITED STATES ARMY CORPS OF ENGINEERS JURISDICTION

The Santa Ana River is subject to potential Corps jurisdiction pursuant to Section 404 of the CWA. This drainage exhibits an OHWM, conveys intermittent flows, and has a direct nexus to the Pacific Ocean (a TNW); therefore, Drainage 1 (Santa Ana River) would be considered a water of the U.S. In addition, the Santa Ana River is a USACE facility under Section 14 ("Section 408") of the Rivers and Harbors Act of 1899, so Section 408 permission will also be required for the Project. Table B provides a breakdown of the drainage acreage within the study area that is subject to potential Corps jurisdiction.

Table B: Delineated Corps Jurisdictional Areas

Drainage ID	Nonwetland Waters (acres)	Wetlands (acres)	Total Corps Jurisdiction (acres)
Drainage 1 (Santa Ana River)	4.18	-	4.18

Note: Totals are rounded to two decimal places.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

CDFW jurisdiction in the Jurisdictional Delineation Limits is associated with Drainage 1. This feature is defined by a channel bed and bank, and functions as an intermittent drainage; therefore, it would be subject to potential CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. Table C provides a summary of the CDFW jurisdictional areas within the Jurisdictional Delineation Limits.

Table C: Delineated CDFW Jurisdictional Areas

Drainage ID	Total CDFW Jurisdiction (acres)
Drainage 1 (Santa Ana River)	5.55

REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION

RWQCB jurisdiction was determined based on the federal definition of waters of the U.S., as recommended by the State Water Resources Control Board's *Workplan: Filling the Gaps in Wetland Protection* (2004). As such, RWQCB jurisdiction is considered coincident with Corps jurisdiction for purposes of Section 401 certification.

DISCLAIMER

The findings and conclusions presented in this report, including the locations and extents of wetlands and other waters subject to regulatory jurisdiction (or lack thereof), represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary until verified by the appropriate regulatory agencies.

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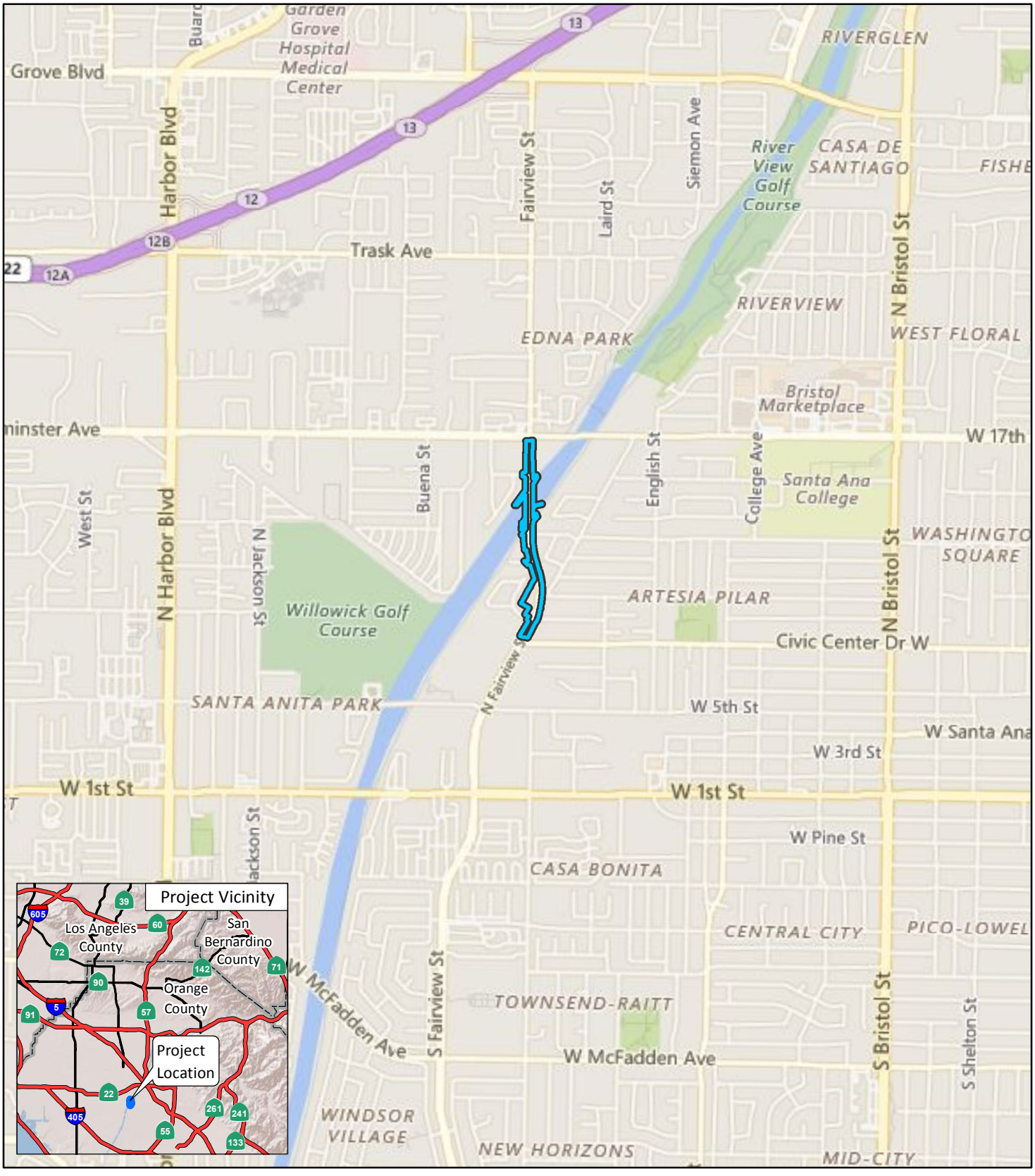
APPENDIX A

FIGURES 1–3



LEGEND

Project Location

FIGURE 1

Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project

Project Location

0 1000 2000

FEET

SOURCE: Bing (2015)

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Biological Study Area (BSA)

Jurisdictional Delineation Limits

Corps (4.18 acres)

CDFW (5.55 acres)

0 175 350

FEET

SOURCE: Bing (2016)

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FIGURE 2

Fairview Street Improvements
from 9th Street to 16th
Street and Bridge Replacement Project

Jurisdictional Delineation Map

Southwest view, looking at the concrete pier walls of the Fairview Bridge.

View of The Santa Ana River Trail and the south side of the Fairview Bridge, looking northwest.

View of concave low flow channel in center of the channel bed with standing water.

View of channel bed and bank, looking southeast.

LSA

FIGURE 3

Fairview Street Improvements
from 9th Street to 16th
Street and Bridge Replacement Project
Representative Site Photos

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